Buxton,

Its Baths & Climate.

Hyde.

SECOND EDITION.

BUXTON:

ITS

BATHS AND CLIMATE:

COMPRISING

A FULL ACCOUNT OF THE CELEBRATED WATERS AND CLIMATE OF BUXTON,

TOGETHER WITH SPECIAL CHAPTERS ON

BATHS, BATHING, AND MASSAGE;

ALSO

EXCURSIONS AROUND BUXTON AND THE PEAK.

By SAMUEL HYDE, M.D., L.R.C.P., M.R.C.S., &c.,

PHYSICIAN TO THE PEAK HYDRO-THERMAL ESTABLISHMENT, BUXTON.

Author of "The Foes of our Health, and How to Meet Them," "Peakland," &c., &c
Editor of "The Journal of British and Foreign Health Resorts, and Review of Hydyotherapeutics and Climatology."

JOHN HEYWOOD,
DEANSGATE AND RIDGEFIELD. MANCHESTER.
2, AMEN CORNER, LONDON, E.C.
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1893.


JOHN · HEYWOOD
EXCELSIOR
WORKS.
MANCHESTER

TO

Miss Gordon,

SISTER OF THE HERO OF KHARTOUM,

THESE PAGES ARE DEDICATED,

AS A SLIGHT ACKNOWLEDGMENT OF THE KINDLY INTEREST TAKEN BY HER IN THE AUTHOR'S EFFORTS TO ADVANCE THE CLAIMS OF BUXTON AS A WINTER HEALTH RESORT.

PREFACE.

In consequence of the success which attended the publication of my little work entitled "Peakland," I have been induced to re-write and considerably extend it beyond its original scope. The increasing fame of Buxton as a health-resort, and the growing interest now taken by the medical profession and the public in general in the treatment of disease by baths and climate, must be my excuse for this step.

In addition to the chapters on the Buxton climate, baths, and waters, I have added a special chapter on the general subjects of BATHS and BATHING, and also one on that of MASSAGE. These additions will, I trust, make the work of further interest. The insertion of the guide portion of "Peakland" will, I am assured, be welcomed by many readers who wish to acquaint themselves with the beauties and attractions of Buxton and its surrounding district.

In making such changes in the general character of the work, it has been deemed more fitting to bring it out under the new title of "Buxton: Its Baths and Climate." At the same time it is my intention to publish a new and revised edition of the smaller work, under its original title.

In the present treatise, whilst trying to avoid as far as possible the too free use of medical and scientific terms, and to make the discussion of technical subjects plain and simple reading, I have endeavoured to shun the style and treatment characteristic of the ordinary spa guide.

It would have given me pleasure to refer more fully to the works of my predecessors who have written upon the Buxton waters, but the space at my disposal would not allow me to do so. Amongst the names of those who wrote upon this subject in the sixteenth, seventeenth, and eighteenth centuries, those of Dr. Jones, Dr. Short, and Dr. Pearson will always hold an honourable position; and amongst modern writers the names of Dr. W. H. Robertson and the late Dr. Byron Bradley are justly held in deep respect. Indeed, it would ill become any modern writer to ignore the voluminous writings of Dr. Robertson; and although personally I am compelled to differ from him upon one or two points, I cannot withhold an expression of my admiration of his patient and laborious efforts to bring the subject of Buxton and its waters before the profession and the public. There are also other authorities to whom deserving praise should be given for advocating the claims of Buxton as the "Queen of Inland Watering Places."

In this connection, I would express a hope that the medical profession and public of Buxton will in future use the valuable opportunities they possess of making known amongst the summer visitors the advantages and attractions of *Buxton as a winter health resort*. These advantages are so real and substantial that there ought not to be much difficulty in inducing the public to visit Buxton in larger numbers during the winter months. I would suggest that the expressions, *the summer season* and *the winter season*, should be more widely adopted by Buxtonians, and that

instead of tradesmen and others advertising and speaking of the close of *the* season, they should speak of the close of the "summer season" or the close of the "winter season," as the case may be. This would doubtless be one of the best ways of making Buxton known as a winter resort.

It is, of course impossible in such a small work as this to treat the subjects it embraces in anything like an exhaustive manner, and therefore it must of necessity contain much that will appear to the reader somewhat vague and indefinite. Not unconscious of these, and other imperfections, I nevertheless submit the work to an indulgent public.

S. H.

Buxton House, Buxton,
July, 1889.

PREFACE TO THE SECOND EDITION.

If one thing be more gratifying to the Author than another in connection with the former edition of this work, it is the more extensive and favourable recognition of his views upon the advantages which Buxton offers as a winter resort; a fact evidenced by (1) a yearly increase of visitors during the winter months, and (2) by a large and growing demand for houses by merchants and others from Manchester, Liverpool, and neighbouring towns, who are desirious of making Buxton their place of residence. Again, a constantly increasing experience of the curative powers of the baths, waters, and climate of Buxton, deepens his conviction that in these natural remedies this Spa possesses invaluable resources for the successful treatment of numerous forms of disease, and also that a more extensive diffusion of a knowledge of these resources amongst members of the medical profession will still further increase the usefulness and reputation of Buxton as a health resort.

In conclusion, the Author would express his deep sense of gratitude to the public for the kind reception accorded to the previous edition of this work, and also to the Press for the numerous flattering notices which it has received.

S. H.

Lismore House, Buxton,
May, 1893.

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BUXTON.

PART I.—MEDICAL

CHAPTER I.

BUXTON, which has justly been styled "The Queen of Inland Watering Places," is situated in the north-west part of the county of Derby, in the hill country called the High Peak.

Many are the conjectures as to the derivation of the name Buxton. It was anciently written Bawkestanes, and Tyson thinks that it was originally called Badestanes from its stone baths.

It is located on the mountain limestone and millstone grit formations at a height of 1,000 feet above the sea level, and has within easy walking distance some of the highest uplands of England (Axe Edge, &c., rising to a height of nearly 2,000 feet). For purity and freshness its mountain air is unrivalled, and the natural medicinal waters of Buxton have been famous from the time of the Romans, and are now resorted to by multitudes every year from all parts of the civilised world. The curative and beneficial effects of the air and waters, in such diseases as rheumatism, gout, paralysis, joint affections, liver complaints, consumption, &c., are constantly being attested by vast numbers of patients who profit by their use.

It stands on the old main road which connected the west of Scotland with London in the "good old times," when stage coaches did duty for the modern horse of steam. In those days Buxton was an important station through which the Glasgow and London Mail Coach passed daily.

The town is divided into Higher and Lower Buxton, the former being over 1,100 feet above the sea. Buxton possesses some very handsome buildings, of which it may well be proud. Its hotel and lodging-house accommodation is of a very superior quality, and ample to meet the requirements of the various classes that resort to the town. The roads and footpaths are excellent, the water supply of the best and purest quality, and the drainage perfect. As an example of the exceptionally healthy character of the town, it may be mentioned that the death-rate for the past year (1885) was only 9·09 per thousand.

The resident population is about 7,000, but in the season this is greatly augmented by the visitors, who at any one time number several thousands.

Although Buxton occupies so great an elevation, it is built mainly in a sheltered valley through which the river Wye meanders. The rich variety of scenery, of hill and dale, of rock and river, of mountain and moorland, together with the abounding materials for botanical, geological, and archæological research, combine attractions of natural beauty and interest rarely met with in the British Isles.

The town of Buxton, at its lowest part, the Crescent, stands over 1,000 feet above the level of the sea, and is surrounded by hills some of which rise to a height of 2,000 feet. The hills which surround the town on all sides go to form a sort of oblong basin, about three miles in length and nearly a mile broad at its lowest portion. The hills rise from the bottom of this basin

with varying degrees of abruptness, sometimes by gradual and almost imperceptible gradations, and at others by steep and rugged ascents. Thus it will be seen that Buxton is more or less protected on all sides from the effects of the severe winds which might otherwise be expected in so elevated a position. This is true even of the highest portion of the town (Higher Buxton), which is sheltered on the south by ground which rises within a mile to an eminence higher by nearly 400 feet. On the north-eastern side the town is well protected by the heights upon which stands the adjoining village of Fairfield. On the east it is sheltered by the high rocky grounds bounding Ashwood Dale. South-east from Buxton there are Chelmorton Low and the intervening hills, the former hill rising to a height of 1,474 feet. On the south we have Foxlow, Harpur Hill, Birrelow, the Grin Plantations, and Solomon's Temple—hills rising to an elevation of 1,435 feet in close proximity to the town. Westward there is a chain of hills, having Axe Edge as its highest point, nearly 2,000 feet; and well protecting the north and north-eastern sides of Buxton are Corbar Hill and Black Edge, the latter rising to a height of 1,670 feet. Most of the hills just mentioned are within a mile or two of the town, whilst beyond these, in many directions and at varying distances, rise hills yet higher. The advantages of such hilly protections as these to a spa having such a lofty elevation as Buxton cannot be too highly estimated, and it is questionable whether another such case could be found in Britain.

This extensive dry upland district, which has an average diameter of thirty miles, has for its subsoil two geological formations most important to health, viz., the mountain limestone and the millstone grit. Of these two formations, both excellent from a sanitary point of view, the mountain limestone is by far the

best, and Buxton is fortunate in being situated (with a slight exception) upon such a subsoil. The two great geological formations meet in the valley at the lower part of the town. Along this valley runs the river Wye, which rises on Axe Edge, and passing through Buxton eastwards, ultimately joins the river Derwent and finds its way to the Humber. On the north and north-west side of the town the millstone grit prevails. On the south-west, south, and south-east, the mountain limestone spreads out almost indefinitely, the river Wye, for all practical purposes, so far as the town is concerned, separating these two formations. It is on the north-western edge of this vast area of mountain limestone that the bulk of the town is situated.

It is, however, necessary here to point out that the supply of water to the town is derived entirely from the millstone grit formation, and has no connection whatever with the limestone.

It will thus be seen that the situation of Buxton is pre-eminently one suited for a first-class health resort. When we take into account its elevated and yet sheltered position, the vast area of its dry upland subsoil of mountain limestone, the purity and dryness of its mountain air, the marvellous properties of its medicinal waters, the unrivalled grandeur and variety of its scenery, its contiguity to the chief places of interest in the district, and its accessibility from all parts of the United Kingdom, it will be admitted that no other English watering place possesses such advantages as Buxton.

Buxton is highly favoured in having no less than three railway companies runing into the town. These are the Midland, London and North-Western, and North Staffordshire Companies. Their main lines and branches make Buxton easily accessible from all parts of England, Scotland, and Ireland. By the enterprise of the Midland, Buxton can be reached from London in less than

four hours, and by that of the North-Western the journey from Manchester to Buxton is accomplished in forty-five minutes, and that from Liverpool in one hour and twenty minutes. These two companies are awakening to a further sense of their responsibility to the public by providing new lines to Buxton, which will be of great utility. The Midland is now constructing a line from Dore to Chinley, which will shorten the journey from Sheffield to Buxton by about thirty miles, and will render it much easier of access from York, Newcastle-on-Tyne, and the north-eastern counties, besides opening up the beautiful valleys of Dore, Edale, and Hope. The North-Western has constructed a line from Buxton, which joins the old High Peak Railway near Hindlow, and this is now being carried forward into Staffordshire, via Ashbourne and Dovedale, thus making a more direct connection with the Potteries, Black Country, and the Birmingham district.

CHAPTER II.

THE THERMAL WATERS.

THE natural medicinal waters, to which Buxton mainly owes its reputation as a health resort, rise by several springs or "sources" in different parts of the town, but the principal springs are situated near the Crescent, at the western end of that building. It is from the edge of the limestone, which meets the millstone grit at the lower level of the town, that the Crescent-springs rise through various fissures to the surface, and there can be no doubt, from the existence of several similar springs and other evidence, that the larger "sources" found in the Crescent are derived from the limestone formation upon which the higher portion of Buxton stands. The temperature of the water as it issues from the earth at the Crescent-source is 82° F. The water has a slight bluish tinge; it is perfectly clear, tasteless, and remarkably buoyant. The chief peculiarity of the water is the considerable quantity of free nitrogen gas with which it is charged, the amount contained being greater than that in any other known mineral water. The waters of Gastein and Wildbad resemble the Buxton water in this respect, but in a lesser degree.

The Buxton water has been analysed by different chemists, with various results. The analysis of a gallon of the water, as determined by Sir Charles Scudamore, was as follows:—

GASEOUS CONTENTS IN CUBIC INCHES.

Carbonic acid	1·50
Nitrogen	4·64
	6·14

SOLID CONTENTS IN GRAINS.

Muriate of magnesia	0·58
Muriate of soda	2·40
Sulphate of lime	0·60
Carbonate of lime	10·40
Extractive matter, with a minute quantity of vegetable fibre	0·50
Loss	0·52
	15·00

The following is the result of Dr. Lyon Playfair's examination, made in 1852. The ingredients found in one imperial gallon of the water at 60° F. were :—

	Grains.
Silica	0·666
Oxide of iron and alumina	0·240
Carbonate of lime	7·773
Sulphate of lime	2·323
Carbonate of magnesia	4·543
Chloride of magnesium	0·114
Chloride of sodium	2·420
Chloride of potassium	2·500
Fluoride of calcium	trace
Phosphate of lime	trace
	20·579

Besides the above mineral ingredients, which are held in solution in the water, Dr. Playfair also found gases as follows :—

	Grains.
Carbonic acid gas	1·167
Nitrogen	98·833
Oxygen	trace

He assumed that the water is charged at the moment of issue with 15·66 cubic inches of carbonic acid gas and 206 cubic inches of nitrogen per gallon.

Dr. Sheridan Muspratt's examination, made in 1860, differed somewhat from the above, and a careful analysis recently made

by Dr. J. C. Thresh, an eminent chemist, differs materially from all previous results. All thermal waters, upon cooling, deposit more or less mud, differing in its composition according to the nature of the various strata through which they have passed in rising to the earth's surface. The Buxton thermal water is no exception to this rule, and a dark brown deposit of mud is found about the orifices of the springs, and coating the reservoirs or tanks into which it flows. Taking advantage of this fact, Dr. Thresh determined to examine this mud, and obtained the following results :—

	Grains.
Oxide of manganese	80·32
Sulphate of barium, sand, &c.	1·08
Lead oxide	0·15
Copper oxide	0·07
Molybdic acid	0·02
Cobalt oxide	0·30
Iron and aluminium oxides	1·36
Zinc oxide	0·46
Barium oxide	0·79
Calcium	5·31
Strontium	a trace
Magnesium	3·18
Carbon dioxide	3·23
Phosphoric acid	0·01
Water	3·93
	100·21

His analysis of the water yielded the following results per gallon :—

	Grains.
Bicarbonate of calcium	14·01
Bicarbonate of magnesium	6·02

Bicarbonate of iron	0·03
Bicarbonate of manganese	0·03
Sulphate of barium	0·05
Sulphate of calcium	0·26
Sulphate of potassium	0·62
Sulphate of sodium	0·84
Nitrate of sodium	0·03
Chloride of calcium	0·02
Chloride of sodium	3·10
Chloride of ammonium	trace
Chloride of magnesium	0·95
Silicic acid	0·95
Organic matter	0·02
Carbon dioxide	0·20
Nitrogen	0·19
	27·32

Lithium, strontium, lead, and phosphoric acid traces.

The analysis of the gas, *as it is evolved at the spring*, gave—

	Grains.
Nitrogen	99·12
Carbonic acid	0·88

And that of the gas *held in solution in the water*—

	Cubic inches per gallon of water.
Nitrogen	6·1
Carbonic acid gas	4·1

It will be noticed that the special points of difference in this recent analysis is the discovery for the first time of molybdenum in the deposit, and also a less amount of nitrogen gas in the water than was found by Dr. Playfair. Nevertheless it leaves the amount of this gas contained in each gallon of water larger than that found in any other known mineral water.

The following is a comparative table of the above analyses :—

	Grains.		
	Scudamore.	Playfair.	Thresh.
Calcium bicarbonate	19·967	11·193	14·010
Magnesium „	—	6·919	6·011
Iron	—	.240*	·031
Manganese	—	—	·028
Barium sulphate	—	—	·048
Calcium „	0·800	2·323	·260
Plumbic „	—	—	·004
Potassium „	—	—	·621
Sodium „	—	—	·843
Ammonium	—	—	—
Sodium nitrate	—	—	·025
Calcium nitrate	—	—	—
Calcium fluoride	—	trace	·020
Sodium chloride	3·200	2·420	3·088
Potassium chloride	—	2·500	—
Ammonium chloride	—	—	·002
Calcium chloride	—	—	—
Magnesium chloride	·773	·114	·953
Silica	—	·666	·949
Organic matter (and loss)	1·359	—	·201
Total grains per gallon	26·099	26·375	27·096

Gases.

	Grains.			
	Scudamore.	Playfair.	Muspratt.	Thresh.
Carbonic acid	1·50	1·167	3·5	4·1
Nitrogen	4·64	98·833	504·0	6·1

* Oxide of iron and alumina.

CHAPTER III.

SOURCE OF THE HEAT OF THE THERMAL WATER.

There has been much speculation, and many are the theories formed as to the origin of the heat of thermal springs. Some authorities have held that the heat is due to the very great depth of their origin and the subterranean heat of the earth; it being an established fact that the deeper we descend into the interior of the earth the higher the temperature rises, and it is fairly assumed that at a depth of less than half a mile the temperature is sufficient to raise water to the boiling point, and convert it into steam. Others have held that the heat is due to volcanic action; whilst others contend strongly for the theory that it is due to progressive chemical changes. It is impossible to say which of these explanations is the correct one. Probably the phenomenon is due not to any one of these causes alone, but to two or more of them acting in conjunction.

The matter is really one of geological speculation. Geike observes that "warm springs occur at a distance from any active volcano. Those of Bath, for example, in the lowlands of the south-west of England, are more than 1,000 miles from the burning mountains of Iceland on the one hand, and more than 1,100 from Vesuvius on the other. It may often be noticed that hot springs rise along mountain chains, or at least on lines where the rocks have been intensely crumpled, and where they may have been greatly heated during the crumpling."

CHAPTER IV.

CHALYBEATE WATER.

There are several chalybeate springs in Buxton and its vicinity. The one most used is that which rises at the foot of Corbar Hill, from the limestone shale, and is conveyed in pipes to the pump-room in the Crescent. It is a mild chalybeate, differing in no essential respect from similar iron-waters found elsewhere, and is mainly used in anæmia and other affections where the need of an iron tonic is indicated.

The best time for drinking this water is immediately after meals, or it may be taken home and drunk at meals, the taking of the water during the process of digestion assisting its action. From quarter to half a pint may be taken two or three times a day. It is also much used as an eye-wash.

This water was analysed by Dr. Lyon Playfair in 1852, when he found one gallon contained the following solid constituents :—

	Grains.
Pro-carbonate of iron	1·044
Silica	1·160
Alumina	trace
Sulphate of lime	2·483
Sulphate of magnesia	0·431
Carbonate of magnesia	0·303
Sulphate of potash	0·147
Chloride of sodium	1·054
Chloride of potassium	0·460
	7·082

Another source of chalybeate water is the Level Mine, a coal mine at Burbage, where this iron water issues in such large quantities as to have become available in the elaborate system of sewage treatment carried on at the works in Ashwood Dale, to which it is conveyed in pipes for purposes of sewage precipitation.

There is also a strong chalybeate spring on the estate of Dr. Bennet, at Barmoor Clough, close to the roadside on the way to Castleton.

In connection with the chalybeate waters of Buxton, it may not be out of place to quote so eminent an authority as Dr. Braun. Speaking of the valuable properties of steel springs, he says: "They contaln a combination of iron, the weak acid of which does not oppose the transformation into lactate. They contain this combination in a very diluted solution, by which means this transformation is, under certain circumstances, promoted. They contain free carbonic acid enough to stimulate the functions of the stomach and bowels." Buxton is, therefore, highly favoured in having several of these valuable springs in such convenient proximity to its natural thermal waters.

CHAPTER V.

ANCIENT USE OF THE WATERS.

That the Buxton water was used as far back as the Roman occupation is amply proved by the remains of Roman baths which have been found near the site of the present springs. Several Roman roads met at Buxton—one from Manchester bearing various names at different parts of its course, such as High Street, Old Gate, Street Lane, &c., proceeded to the south of Buxton, and traces still remain near Hurdlow House. Another commences near Hope, at a place called Brough, which was formerly a Roman station. This road was called the Bath Way or Bathom Gate.

The ancients appear to have combined sanitary connsiderations with military exigencies, hence the camp and the bath are frequently found in closer juxtaposition than obtains in these modern days. It is very remarkable that the Romans should have chosen some of their most important military stations in Britain in near proximity to the two great thermal springs of England (Bath and Buxton). Whether it was from superstitious feelings or regard for the healing qualities of such waters, or from mere sensuous motives of luxury, I cannot say, but the fact remains. Military stations belonging to the Roman Conquest are to be found at Coomb's Moss, near Buxton, and in other parts of the Peak. Nor is it improbable that these thermal springs of Buxton were known to and appreciated by our Saxon fore-

fathers. In the dark Middle Ages, when superstition permeated the social and individual life of the community, it is no wonder that the natural warm springs of Buxton should have been invested with a halo of pious superstition, and should have had ascribed to them the special patronage and protection of Saint Anne. Thus to her aqueous shrine repaired from far and near the halt, the lame, and the blind, and around the image of the fair patron a pious votive pile of sticks and crutches left by grateful pilgrims grew up until the iconoclastic days of Henry the Eighth brought rude disturbance to such practices. Sir William Basset appears to have been the chosen instrument of Protestant displeasure, and images, pictures, and crutches were broken, demolished, and burnt with a zeal and religious fervour perhaps not less blind and superstitious than those of the devotees of opposite faith. Such rude and violent measures had, however, little effect in crushing out the popular faith in these waters. Hence we find Thomas Hobbes, in a Latin poem, published in 1678, called "*De Mirabilibus Pecci*," being the wonders of the Peak, quaintly singing—

"Unto St. Anne the fountain sacred is ;
With waters hot and cold its sources rise,
And in its sulphur-veins there medicine lies:
This cures the palsied members of the old,
And cherishes the nerves grown stiff and cold ;
Crutches the lame unto its brink convey ;
Returning, the ungrates fling them away."

It was about this period that the celebrated Dr. John Jones wrote his famous book, "The Bathes of Bathes Ayde," which was published in 1572. Jones was a physician who studied closely the composition and properties of the Buxton and Bath waters, and appears to have divided his medical favours by practising

sometimes in Somersetshire, sometimes in Nottinghamshire, and at others in Derbyshire. In a treatise styled "Buckstone's Bathes Benefyte," published at the same time, Dr. Jones, in speaking of the provision that had then been made for the accommodation of visitors to the Baths, seems to have anticipated somewhat that success which has attended the use of these waters in modern times when he says, "And truely, I suppose, that if these were for the sicke a sanctuarii during their abode there, for all causes save sacriledge, treason, murther, burglary, rape, and robbing by the hyeway side, with also a lycense for the sick to eat flesh at all tymes, and a Fryday market weekly, and two fayres yearely, it should be to the posterities not only commodious, but also to the Prince great honour and gayne."

Thus, in the fifteenth and sixteenth centuries, the reputation of the curative waters of Buxton was known far and wide, and multitudes of poor sufferers flocked to the well of St. Anne, there to be healed of divers painful maladies. Poor Mary Queen of Scots paid several visits to Buxton to get benefit from its healing waters. Her first visit was in 1573, in the custody of the Earl of Shrewsbury. Queen Elizabeth appears to have been rather chary in her consent to this visit, judging from the following instructions sent to Shrewsbury by Lord Burleigh : "Her Ma^{ty} is pleased, that if your L. shall think you may w^{t} perill conduct the Q. of Scotts to ye well of Buckston, accordyng to her most ernest desyre your L. shall so doo, usyng such care and respect for her person, to contynew in your chardg, as hytherto your L hath honorably, happely, and s'visably doone : and when your L. shall determyn to remove w^{t} the sayd Q. thythar, it wer good y^{t} as little forknolledg abrode as may conveniently be gyven ; and nevertheless y^{t} for y^{e} tyme y^{t} she shall be ther, y^{t} all others, being strangers from your L. company, be forbydden to come

thyther duryng y^e^ tyme of y^e^ sayd Queen's abode there. And this I wryte because her Ma^ty^ was very unwyllyng y^t^ she shuld go thyther, imagening y^t^ hir desyre was ether to be the more sene of strangers resortyng thyther, or for y^e^ acheving of some furder enterp'se to escape; but on the part I told hir Ma^ty^, if in very dede hir sickness wer to be releved therby, hir Ma^ty^ cold not in honor deny hir to have y^e^ naturall remedy therof; and for hir savety, I knew your L. wold have sufficient care and regard; and so hir Ma^ty^ com'anded me to wryte to your L. y^t^ yow might co'duct hir thyther, and also to have good respect to hir." August 10, 1573.—*Lodge's Illustrations.*

This unfortunate Queen paid a second visit to Buxton in 1576, and in connection with this visit certain false reports were made to Elizabeth about her, and Shrewsbury deemed it desirable to write in vindication of himself as follows: "Touching the doubtfullnes her Ma^te^ shuld have of me in gyvyng the Scotes Q. lyberte to be sene and saluted; suerly my L. the reportars thereof to her Ma^te^ hathe done me grete wronge: In dede at her fyrst beinge there, ther hapenyd a pore lame crepell to be in the lowar . . . unknowne to all my pepell that garded the plase, and when she hard that there was women in the . . . she desiered some good gentylwoman to gyve her a smoke; wherupon they putt one of ther smokes out of a hole in the walle to her, and so soone as it came to my knolege, I was bothe offended w^t^ her and my pepell for takeyng any lettarr unto her; and after that tyme I toke such ordar as no pore pepell cam unto the house during that tyme; neither at the seconde time was ther any strangar at Buxtons (but my one pepell) that sawe her, for that I gave such charge to the contrey about, none should come in to behold her."

Again, in 1580, we find her visiting Buxton, still a prisoner in

charge of the Earl of Shrewsbury. In a letter to Lord Burleigh, dated August 9, 1580, the Earl writes: "I cam heddar to Buxtons w^{t} my charge, the 28 of July. She hadde a harde begynnenge of her jorney; for when she shuld have taken her horse, he started asyde, and therwith she fell and hurte hur bake, w^{ch} she still complaines off, notwithstanding she applyes the bathe ons or twyse a daye. I doo strictly obsarve hur Ma^{ties} com'andment, wrytten to me by yo^{r} L. in restreyninge all resorte to this plase; nether dothe she see, norr is seene to any more than to hur owne pepell and suche as I appoynt to atende: she hath nott come forthe of the house synce her cumynge, or shall nott before hur p^{r}tynge." How sad must have been the condition of poor Mary, sick in body and broken in spirit! Well might she give vent to her pent-up feelings on her last visit in 1582, by writing on a pane of glass in her room the following Latin lines:—

"Buxtona, quæ calidæ celebrabere nomine lymphæ,
Forte mihi posthac non adeunda, vale!"

Thus freely translated:—

"Buxton, whose fame thy milk-warm waters tell,
Whom I, perhaps, no more shall see, farewell!"

It is gratifying to find that her sufferings were alleviated. She wrote: "It is incredible how it (the water) has relaxed the tension of the nerves, and relieved my body of the dropsical humours with which, in consequence of my debility, it has been charged."

Other notable personages who figure in history have from time to time been wont to visit the same hygienic shrine.

CHAPTER VI.

THE BATHS.

The principal Buxton baths are the Public Mineral Water Baths belonging to His Grace the Duke of Devonshire, a description of which will interest the reader.

The Natural Baths—that is, those where only baths at the natural temperature of 82° are given—are situated at the west end of the Crescent. They are entered from the St. Anne's Well Arcade. They consist of public and private baths, and are arranged in separate suites for ladies and gentlemen. In the latter suite there are six private and two public baths, which are supplied direct with the thermal water, which rises through holes made in the marble slabs lining the bottom of the baths. The first-class gentleman's bath is not very large (26ft. by 16¼ft., and 4½ft. deep), but is luxurious in its construction and appointments. Underneath the marble floor of this bath are situated the chief springs. The ladies' baths are similar to those just described. All these baths, both public and private, are provided with douches for applying the waters locally.

The Hot Baths, or those where the natural water is used, but is artificially raised to any higher temperature that may be required, are situated at the eastern end of the same pile of buildings. It is these artificially heated baths which are in

most request, being more capable of useful application than the water at its naturally low temperature. Both these sets of baths are divided into separate suites for ladies and gentlemen. Several years ago they were greatly extended, and various improvements effected. These include elaborate massage baths, Russian vapour, needle, sitz, and other special forms of baths; thus patients are now able to obtain baths which before were only available at private hydropathic establishments. The introduction of such modern appliances has long been advocated by the writer and others, and must prove not only of great service to invalids who visit these baths, but must tend greatly to the attractiveness of Buxton as a spa.

As before stated, the thermal water rises through crevices in the limestone rock from several springs beneath, or in close proximity to the natural baths, the outflow being constant and of large volume, about 130 gallons per minute passing to the natural baths.

The Natural and Hot Baths are open every day (Sundays excepted) from 6 a.m. to 6 p.m. On Sundays the hot and Natural Baths are open from 8 to 9 a.m., and from 12-30 to 1-30 p.m. During the winter months, viz., from November to May, these times are altered, notice of which is given in the local newspapers from time to time.

Admission to these baths is by ticket only, to be obtained at the Ticket Office, Hot Baths Arcade, at the prices following:—

NATURAL BATHS.

(Adjoining the West Wing of the Crescent.)	s.	d.
Gentlemen's Private Bath	2	6
,, Public, No. 1.....	2	0
,, Public, No. 2.....	1	0

	s.	d.
Ladies' Private Bath	2	6
,, Public Bath, before 11 o'clock	2	0
,, Public Bath, after 11 o'clock.....	1	0

HOT BATHS.

(Adjoining the East Wing of the Crescent.)

Gentlemen's Private Bath, from 6 to 7-45 a.m.*	1	6
,, ,, ,, after 8 a.m.	2	6
Ladies' Private Bath, from 6 to 7-45 a.m.*	1	6
,, ,, ,, after 8 a.m.	2	6
Shower Bath	1	6
Massage Bath	3	6
Russian Vapour Bath	2	6

THE PEAK BATHS are situated in Terrace Road, and are in connection with the Peak Hydropathic and Thermal Establishment; they are open to the public daily, except Sundays. The baths of the Thermal Establishment comprise all modern varieties and appliances, including Aix-les-Bains Massage, Russian, Vapour, Electric, and others.

One of the Buxton springs of Thermal mineral water was discovered here some years ago, and has recently been brought into use at these Baths. This is a great convenience to invalids residing in the Thermal Establishment, as it obviates the necessity of visiting the Public Baths in unfavourable weather.

THE TONIC OR TEPID SWIMMING BATH, at the west end of the Broad Walk, is much resorted to by those who wish to enjoy the luxury of a good swim.

THE PUMP ROOMS are both situated at the western end of the Crescent, in the corridor leading to the Natural Baths. ST.

* These tickets are not used on Sundays.

ANNE'S WELL is the first arrived at on entering the Arcade from the front of the Crescent, and although neat and well-appointed, is totally inadequate to accommodate the numbers who resort to it in the season. This will, however, be superseded during the present season by a handsome new Pump Room, now in course of erection at the foot of the Terrace, immediately facing the centre of the Crescent, at an estimated cost of £4,000. THE CHALYBEATE WELL ROOM is entered by a door on the left, a little further along the same corridor. Opposite the St. Anne's Pump Room, standing at the foot of the Terrace Walks, is an elegant stone structure, the St. Anne's Pump, from which the natural thermal water can be obtained by the public without charge.

CHAPTER VII.

THE MEDICAL ACTION OF THE THERMAL WATER.

The action of the thermal water may be briefly described as alterative and eliminative. When drunk its chief observable action is upon three of the great emunctories of the body—the kidneys, the liver, and the skin. Its effects on the kidneys are shown by a marked increase in the secretion of urine. In torpid conditions of the liver an increased activity of the secreting functions of the liver-cells is evidenced by an additional flow of bile. There would also sometimes appear to be a change produced in the histological elements of that organ, as is shown by the decided improvement often observed in cases of organic disease of the liver. The effects of the water on the skin, when taken internally, are chiefly stimulating, tending to an increased action of the sudorific glands.

As to the influence of the thermal water on the various fibrous and other tissues of the body, very little really scientific information is attainable. That the water has an undoubted remedial effect upon many painful and other diseased conditions of the muscular, nervous, osseous, and other tissues cannot be denied, as results so remarkable and so frequent as those met with in Buxton practice are not to be explained by any other cause, whether merely coincidental or otherwise.

As a rule, whether the water be drunk or used as a bath,

there are no unpleasant subjective sensations experienced by the patient. In some cases, however, the drinking of the water produces slight giddiness, which is probably due to an over stimulating effect on the cerebral circulation, and when this occurs the quantity taken should be reduced or the water stopped altogether for a few days. In some cases, also, disagreeable sensations are experienced by bathers, but when such is the case it may be assumed almost with certainty that there is some more or less serious organic disease connected with either the heart or large blood vessels, the lungs, or the brain. To a person in an ordinarily sound state of health the bath is perfectly safe, and there is no ground for that fear which has been excited by some authorities, that there is danger sometimes in the use of the bath by persons in good health. That the bath frequently disagrees with such persons, I freely admit, and would generally advise those who have no particular object in view not to take the baths, but I cannot admit that there is cause for creating such alarm as one frequently hears expressed. Having said this much, however, I am compelled to warn invalids against the pernicious practice of drinking these waters and taking the baths without proper medical advice. By such a course I have seen very frequently not only direct injury result, but much valuable time and money wasted by the patient either taking the wrong kind of bath for his case or taking too many or too few of the right ones. It cannot be too strongly emphasised that these waters and baths are no exception, but follow the law as to the action of all remedies used for the relief of disease, and require both prescribing and dispensing according to certain rules which should regulate the treatment of every individual case according to its own special merits. Nor is it the general public only who require a warning on this point. Many medical

men seem to forget that special physiological and therapeutical knowledge is as requisite for the successful use of natural medicinal waters as for that of any other remedy.

Dr. Titus Muson Coan, in the *New York Medical Record*, confesses, after considerable observation and study, that the effects of mineral waters are not wholly due to change of environment, although he admits that previously he had been most sceptical on the matter. He says: "For better or for worse, they are at least active medicines. It is they, primarily, that produce the physiological effects that are noted; it is idle to ascribe laxative results to landscapes, or a liver cure to a new social environment. A changed dietary may, indeed, have its effect, but it is not the sound of cowbells or the sight of glaciers that produce fluid stools. . . . Travel and change do much, but not all; "*cœlum, non cæcum; mutant, qui trans mare currunt.*"

Without entering into any lengthened dissertation as to the pathology of the diseases mentioned, or the *modus operandi* by which the Buxton thermal waters produce beneficial results, it may be interesting to enumerate more particularly some of the diseases in which they are found useful.

Rheumatism.—Under this term are included a large variety of more or less painful and obstinate affections, which may be advantageously treated by the Buxton thermal waters. These include acute and sub-acute rheumatism, rheumatic arthritis, rheumatic gout, myalgia, or muscular rheumatism. In sub-acute rheumatism, and those conditions which are so often associated with a slow convalescence from an acute attack—conditions often marked by loss of flesh, extreme debility, and enlargement of joints—the improvement is generally rapid and most marked.

Gout.—In acute and chronic gout and the many protean forms of that disease, the Buxton waters are most efficacious. In ordinary lithæmia and latent gout the waters promote the elimination of the lithic acid from the system.

Neuralgic Affections.—Sciatica, lumbago, and intercostal and brachial neuralgia are greatly benefitted by a course of the waters.

Paralysis and Spinal Disease.—In local forms of paralysis, especially from metallic poisoning, as, for instance, lead, and in writer's cramp; in facial paralysis, and diphtheritic paralysis; and in hemiplegia, when of not too long standing, I have also seen some remarkably good results in locomotor ataxy.

Anæmia, Malaria, &c.—Especially where these diseases are complicated with rheumatic or gouty symptoms, the Buxton waters are of great use. I have often been struck with the frequency of these hybrid conditions, two or more constitutional diseases combining to form a compound disease. This is often seen in the case of officers and others who have resided in malarial districts abroad, and who, on returning to this country, contract rheumatism. The characteristics of this form of rheumatism are very striking; the malarial cachexia modifying the course and symptoms of the disease in an unmistakable manner.

Diseases of the Skin.—In psoriasis and eczema, particularly when of gouty or rheumatic origin, the waters afford very satisfactory results.

Diseases of Women.—Irregular and painful menstruation, leucorrhœa, chronic ovaritis, neuralgia of the ovaries, ulcerations, catarrh, and sterility are often much benefitted.

Throat Affections.—In chronic laryngitis, pharyngitis, and clergyman's sore throat the waters do much good.

Surgical Diseases.—In many surgical affections the Buxton thermal waters are of great service. Conditions such as those following fractures and dislocations, sprains of joints and such like injuries, together with surgical diseases of a constitutional character, as, for instance, hip-joint disease, caries and necrosis of bone, white swellings, chronic synovitis, tumours, &c., are benefitted by these waters. Dr. Muirhead Little, in an article on the use of baths and watering-places in the treatment of chronic joint disease, states that in a rare case of return inflammation in a knee-joint fully twenty years after it had been the seat of white swelling, he saw an astonishing improvement effected by a visit to Buxton of six weeks, and the patient was able to walk long distances and lead an active life.

Whilst in the following section I purpose giving some directions as to the use of the thermal waters, I can only do so in a general way, and would strongly advise every patient to consult, on his arrival, some local medical man as to the best course to take in his case before resorting to their use. By so doing, as already remarked, he may save much time, money, and disappointment.

CHAPTER VIII.

MODE OF USING THE WATERS.

It is usually better not to begin a course of baths until one or two clear days have elapsed after arrival. This will allow any excitement or fatigue, due perhaps to a long railway journey, to pass off, and will give the patient an opportunity of getting used to the change of air, which to some persons is at first so stimulating as to render immediate bathing undesirable. The time thus spent should not be considered as wasted. It is really an essential part of the treatment, the pure bracing mountain air acting powerfully upon the general system, stirring up the nutritive functions, and thus tending to promote that process of repair in which the action of the waters is to take such an effective part. As a rule, the patient may commence drinking the waters on the first day of his visit.

The quantity of water to be drunk, and the times of taking it, vary according to the case. A tumblerful taken twice or thrice daily is usually borne well. Its action is more beneficial if taken about an hour before meals. When possible, patients should take one of the tumblerfuls before breakfast. In many cases it is advantageous to sip the water slowly, especially when it causes undue exhilaration or a sense of distension in the stomach. It is scarcely necessary to say that it ought to be drunk fresh from its source at the well. It is also desirable not to drink it just before taking a bath. It may, however, be drunk immediately

after bathing. In some cases I find the addition of milk useful. Many patients unable to drink the water alone can take it thus combined.

As already explained, the water is used in the form of baths at the natural temperature, called "natural baths," and as "hot baths," which consist of the same water raised artificially to a higher temperature by the addition of a quantity of the natural water specially heated. Generally it is better to commence the course by taking several of the hotter baths, beginning at about 96° F. and coming down to 87°, when the patient may then go to the natural bath. Some persons, however, are never able to take the latter, but have to keep to the warmer baths. Then, again, other patients are advised only to take three-quarter baths or half baths, as the case may be. Those suffering from heart disease or other organic affections may often take these modified baths safely. In these partial immersions the patient descends only so far as to cover a portion of the body as ordered by the doctor. He should avoid much friction of the skin, especially with a flesh-brush, as the turgescence of the cutaneous blood-vessels which results, is opposed to the absorption of the water. Gentle fingering, squeezing, or kneading of the parts affected is, however, very helpful. The head should always be cooled by an early wetting when taking the natural bath, but it is not necessary to wet the head when taking the bath at higher temperatures. Ladies to whom it may be inconvenient to wet the hair should wear bathing caps. The time usually occupied in the hotter baths varies from four to fifteen minutes. About eight is the average time. For the natural bath the time ranges from two to ten minutes.

The best time for taking the baths is half an hour or an hour before breakfast. If the patient is too weak for this, the next best time is about an hour before the mid-day meal.

Contrary to the usual practice of taking a brisk walk after an ordinary bath, the patient is advised not to walk much soon after the Buxton bath, unless he has a difficulty in getting up a reaction, which is very rarely the case; but to return quietly to his lodgings, and there to rest for an hour or so, either in an easy chair or reclining on a couch. After this he is at liberty to take outdoor exercise.

It is a good plan to take one or two doses of aperient medicine (a saline is the best) before beginning to use the waters. This practice in most cases requires repeating several times during the visit, as more or less constipation is apt to follow the change to the tonic and bracing air of Buxton.

The number of baths and the duration of the course will vary according to each case. As a rule, not more than four or five baths should be taken in one week, and the course usually occupies from three to six weeks. After about twenty-four baths it is not advisable to continue the bath longer, but to rest at least a fortnight from the use of the waters, when they can be again resorted to with advantage.

I would here mention a fact which has often struck me, viz., the analogy between the action of these waters and that of various chemical and physical stimulants upon nerves. The longer and oftener you stimulate a nerve—say with a current of electricity—the weaker the response of the nerve becomes, until it at last ceases altogether. So the baths may be taken either too frequently or too long, until at last the system ceases to respond to their action. This is often illustrated in the case of patients who—on their own responsibility (doubtless thinking they will save time)—take a bath, sometimes two, every day, and receive no benefit, but who, on being advised to take them less frequently, begin to improve immediately.

CHAPTER IX.

THE BUXTON THERMAL CURE.

THE fame of Buxton and its curative air and waters has spread throughout the civilised world. Nor is this to be wondered at, when it is remembered that this celebrity has been the slow and certain growth of centuries. From the time when Mary Queen of Scots first visited Buxton, in order to drink the waters, its progress has been uninterrupted, so that now it is resorted to annually by thousands of sufferers from various parts of the globe, a great proportion of whom are permanently cured of their maladies. As to the reality of these cures in a very large number of cases—cases previously intractable to other modes of treatment—there cannot be a shadow of doubt; but to what factor in the treatment the remarkable results are due, is not so certain.

That there are several factors entering into the "cure" has, in modern times, always been admitted. These may thus be enumerated:—

1. The purity and bracing character of the mountain air.
2. The altitude, geological formation, and other physical pecularities of situation.
3. The chemical and physical character of the waters.
4. The mode of application of the baths and waters.

To *the pure bracing air*, *the high altitude* (1,000ft. and upwards above the level of the sea), and *splendid geological formation*, consisting of vast tracts of mountain limestone on one side, and of extensive areas of millstone grit on the other, I am inclined to ascribe a foremost place in the curative process. As we have elsewhere shown, Buxton occupies a unique position amongst British health-resorts by its great elevation and dry bracing air, and there is no doubt that it is in a great measure due to the influence of these factors that so many cases of disease are permanently benefitted by a sojourn at Buxton. To the peculiar conditions and influence of the climate of Buxton I shall devote a special chapter.

With regard to the physical condition of the waters, the temperature of 82° is the only matter worthy of notice, and to this we are unable to attach much importance. As to its chemical composition, the case is different, for no matter how difficult it may be for us to explain such a remarkable therapeutical action from such an apparently weak chemical solution, nevertheless the fact remains that the water does produce effects which the greatest sceptic would be bold in ascribing either to mere coincidence or to the imagination.

Coming now to the mode of application of the waters, this is that which has prevailed at Buxton for generations, and consists in immersing the body or some portion thereof in the natural mineral water for a longer or shorter period of time, or the local application of the water to parts of the body by means of massage douches or shower appliances. In addition to this, one or two tumblerfuls of the water are drunk twice or thrice daily.

It has been long felt by the author that much more benefit would be derived from the Buxton treatment if the use of the waters could be more adapted to modern scientific principles of

medical treatment, and that numbers of patients who now try the waters with little or no good result ought certainly to be amenable to cure.

The great obstacle to the successful use of the Buxton mineral water in the form of an immersion-bath, as also in the use of any similar medicinal water-bath, where we are dependent upon the absorption of the water and some of its constituents, arises from the fact that "the skin is unable to absorb any substances, either salts or vegetable poisons, *from watery solutions of these.* This is due to the fat normally present on the epidermis and in the pores of the skin."* Some gases are, however, absorbed in minute traces under normal conditions of the skin. The simple question, therefore, is, *How can this obstacle to cutaneous absorption be best overcome?* The skin of some people possesses much less power of absorption than that of others; it is naturally inactive, and fails to respond to ordinary stimuli. Now, it has been a matter of frequent observation by the writer that such patients derive the least beneficial results from the Buxton bath, and that only when additional means are used to bring the skin into a more active and healthier condition does any real benefit become apparent. To accomplish this, I have myself resorted to various measures—sometimes giving medicines which act on the skin, sometimes ordering a preliminary course of the Buxton baths to be taken at a much higher temperature than that of the natural water, and sometimes advising patients to take either a preliminary short course of sweating baths (Turkish or vapour), or, better still, to intersperse them with the Buxton baths in the relation of about two of the former to two or three of the latter. The success of this plan has often been astonishing, the effects of about four of the mixed baths per week being frequently

* Landois' "Physiology."

equal to the effects of twice the number of Buxton baths alone, and occupying only half the time. These good results are no doubt due first to the eliminatory effects of the sweating bath, which help to rid the system of the *materies morbi ;* and, secondly, to the better conditlon which the skin presents for absorption, in consequence of the stimulating and detergent effects of the sweating process.

These facts struck me with so much force several years ago that I determined to take advantage of the experience thus gained, and to endeavour to apply the principles to the elucidation of a more rational and scientific application of the Buxton treatment —one which should as far as possible meet the difficulty of cutaneous absorption, and thus supply an element of success more or less lacking in the old-fashioned mode of administering the Buxton bath. I therefore conducted a series of experiments and investigations at the Peak Baths, Buxton, which resulted in the development of a new system which, I believe, combines the necessary elements hitherto lacking.

The system of treatment originated by the author, and called "The Buxton Thermal Cure," is an entirely new mode of applying the Buxton natural remedies; and whilst resembling in some respects the treatment carried out at some continental spas—notably "The Mont Dore Cure," of Mont Dore, in the south of France—it is essentially different from anything of the kind hitherto attempted. A detailed description of the process will, however, give the best idea of the system.

The bathrooms and various appliances used in the "Buxton Thermal Cure" consist of a large room similar to the cooling-room of a Turkish bath, which contains a number of dressing compartments, with couches and other requisites for bathers. Leading hence, a short corridor brings us to the sweating-room—

This room is filled with vapour and hot air, and kept at a temperature of about 120° to 130° Fahrenheit. From this room we enter the wash-down room, where are hot, tepid, and cold douches and shower and rain appliances used for cleansing the sweat from the skin. The ventilation of all these rooms is perfect, the whole of the air being drawn from the outside atmosphere; and having been first heated by a special apparatus, it is delivered into the rooms in a constant stream, and then passed out by properly-constructed ventilators. The vapour is supplied through gratings in the floor and by jets at the sides of the rooms; and it may be here stated that the supply of vapour and hot air is under proper control, and can be regulated accordingly.

Having thus briefly described the rooms and various appliances, a short description of the details of the process, as applied in an ordinary case—say of rheumatism—will give the reader a tolerably fair idea of the system.

The patient just before entering the bath drinks one or two tumblerfuls of the Buxton thermal water. He then enters the large room already mentioned, is shown into a dressing compartment, and having duly prepared, is conducted through the spray-room, where an attendant presents him with a towel, and then introduces him into the sweating hall. Here the patient reclines or sits, exposed to the influence of the hot air and vapour for a period varying from ten to thirty minutes or longer. He now returns to the washroom, where he is quickly washed with warm water and dried with a towel, after which the attendant briskly rubs the body with spirit, and then the patient

is exposed for a few minutes to the Buxton thermal water spray already alluded to. He then, enveloped in a large bath sheet, returns to his dressing couch, where he reposes a short time before dressing and leaving the bath. Of course the treatment is varied according to the special requirements of the case. In the douche-room provision is made for the application of steam douches to stiffened joints; to the loins in lumbago; to the hips in sciatica, and to the throat, &c. Many cases of stiff joints and contracted muscles are greatly assisted by the use of mechanical exercise just after the sweating process, when the fibrous and muscular structures are in a less tense and more softened condition. This is well provided for in the supply of exercising machines found in the mechanical exercise-room.

The advantages claimed for this system are several and important. In the sweating part of the process a considerable amount of the natural thermal water, drunk before entering the bath, must of necessity pass from the body through the cutaneous circulation, carrying with it deleterious particles, and, as it were, washing out the sweat and other glands of the skin, at the same time softening the skin and rendering it more capable of absorption. This part of the treatment, which we may call the eliminative process, is easily borne by patients even in a very delicate state of health. It is much more comfortable and pleasant than either the Turkish or the Russian vapour bath. The patient who is unable to breathe the dry, and to some people irritating, air of the Turkish bath, can breathe with comfort in the new Buxton thermal bath—in fact, in asthma and

many chronic conditions of the throat and chest, marked benefit is often derived from its use. In such cases also it may be that the inhalation of the finely-pulverised natural mineral water, which, being diffused in the spray apartment, mixes with the air breathed, may exert some medicinal effect on the diseased mucous membranes.

Coming now to the second part of the process, the action of the skin is reversed, and absorption is promoted. Here I have taken advantage of a fact known to modern physiologists, viz., that although in its normal condition the skin is prevented from absorbing substances held in solution by water on account of the fat which covers the epidermis and blocks the pores, it can readily be made to absorb such substances if the fat be removed from the skin by alcohol, chloroform, or ether. In order, therefore, to obtain the very best possible conditions for the absorption of the Buxton water, I have the body carefully rubbed down with spirit before being exposed to the action of the medicinal water spray. This, is, I believe, the first time the above principle has been applied in the practice of balneology, but its importance will commend itself to the thoughtful reader. The patient, with his skin thus highly prepared for absorption, is exposed to the action of a number of fine sprays of the natural medicinal water, which falls as a gentle dew-like deposit upon the skin. It must therefore follow that the patient will, under these extremely favourable conditions, absorb an incomparably larger quantity of the constituents of the natural medicinal water than by a bath taken in the ordinary way of immersion.

Another advantage this mode of applying the Buxton thermal water claims over that of immersion, is its freedom from the risks of producing those injurious effects which are not infrequently met with in patients who bathe in these waters whilst

suffering from some cardiac or cerebral trouble, effects which are often truly alarming, and the fear of which absolutely precludes a great number of sufferers from participating in the benefits of the bath. From the gentle mode of application, under the new system, such persons are able to use the water with safety.

We have thus presented to us in the Buxton Thermal Cure a system of treatment not only applicable to all cases for which the Buxton bath is usually prescribed, but also capable of indefinite application. Of its efficacy in gout and rheumatism, in sciatica, lumbago, and other painful nerve affections, I have had abundant evidence during the past three years. Of its advantages over the time-honoured mode of application there can be no question, the proportion of cases benefitted being greatly in excess of anything I have seen in my previous practice under the old system. In uterine and other chronic ailments, in many throat and chest affections, and certain forms of kidney and liver diseases, much benefit may also be derived. Patients suffering from chronic laryngitis and other affections of the throat, are frequently greatly benefitted by the inhalation of the finely-pulverised Buxton thermal water. Nor ought I to omit mentioning those often troublesome and persistent affections of the skin which fall under the general term eczema. In these, as well as in many obstinate cases of psoriasis, I have seen some truly remarkable results following the new thermal system. The application of the fine sprays of thermal water to the skin so recently after the active sweating process exerts a peculiarly mollifying effect, tending to bring about a more healthy action in the cutaneous cells, and altogether improving the appearance of the skin. In this connection it may not be out of place to state that many lady patients have stated to me that they have

observed a remarkable effect upon the skin from a toilet point of view, the skin being softened and whitened, and the complexion and appearance generally improved by its use.

It only remains to be said that the Buxton thermal water necessary for this process is obtained fresh from the St. Anne's Well, where it is collected and placed in proper receptacles, care being taken to retain the gas held in solution.

By the recent introduction of the Russian vapour bath at the Buxton Public Baths, the above system can be carried out there in a somewhat modified form. The patient whom it is desired should there follow the thermal cure system ought first to enter the Russian sweating bath. After ten to thirty minutes therein, the sweat should be washed off, the body gently dried, and the skin lightly rubbed with a highly-rectified spirit. As there is at present no room provided at the public baths for the application of the thermal water to the body in a pulverised form, the patient, after the skin has been prepared with the spirit, should be placed in an immersion bath of Buxton water, raised to a temperature of 95°, remaining in the same five to ten minutes, after which he reclines for a short time on a couch, and then proceeds to dress.

CHAPTER X.

THE CLIMATE OF BUXTON.

The climatic conditions of a health-resort possessing the remarkable peculiarities of situation which pertain to Buxton, form a subject of great interest, considered from a hygienic point of view. That it is one which has not received from previous writers on Buxton that attention which its importance deserves, must be my excuse for entering somewhat at length into its discussion. That the matter has been so neglected seems to me somewhat remarkable, since during my medical practice in Buxton the conviction has grown in my mind year by year that attention paid to this subject would yield results no less surprising than those which have followed the study of the medicinal waters.

The climatic treatment of disease has of late years taken a conspicuous place in the practice of the healing art, and medical men of the greatest eminence now make free use of the remedial advantages of the various health-giving climates to be found at home and abroad. Personally, I believe that this subject cannot be over-estimated, and that the climatic treatment of disease involves possibilities of good hitherto undreamt of, and varied applications calculated to revolutionise the whole future of medical practice.

Formerly it was customary to judge of the quality of air mainly by the relative quantities of oxygen, nitrogen, carbonic acid gas, watery vapour, and ozone, which it contains; but now

it is generally admitted to be equally important, in considering its influence on health and disease, to take into consideration the amount of floating particles of matter which the air may contain; and the researches of Pasteur, Tyndall, and others have added incalculably to our knowledge of this important subject. These researches have proved incontestably the existence of bacteria or living germs in the atmosphere, and that these minute forms of life are very common causes of many of the diseases to which the body is liable, and, further, the number of bacteria found in a given quantity of air is marvellously influenced by various circumstances, such as low or high altitudes, thickly or thinly populated districts, indoor or outdoor air, and the presence or absence of organic decomposition. As an illustration of the influence exerted in this respect by population, altitude, &c., I may mention that it was found, by careful experiments made in 1883, that in samples of air examined simultaneously ten cubic metres of air in the centre of Paris contained 55,000 bacteria, whilst in a park outside but near that city only 7,600 were found in the same quantity, and that near the Hotel Belle Vue, at an altitude of 560 metres, only 25 of these living germs were found in the same volume of air, and at an elevation of 2,000 and more metres the atmosphere was absolutely free from any of these forms of life. This proves that whilst either density of population or a low situation favours the generation of living disease-germs the reverse is the case with sparseness of population or high altitudes. In fact, not only do these minute forms of life become fewer and fewer as we ascend hilly regions, but it would appear that after a certain altitude is attained the air is so pure that they are no longer able to exist.

There are, of course, other factors which are of more or less importance in judging of the suitableness of a climate for the

treatment of a given disease, such as the quantity of moisture contained in the air, atmospheric pressure, temperature, wind, electrical condition, rainfall and snowfall, elevation above the sea, nature of soil, and conditions of vegetation; but the one paramount and essential factor in the successful treatment, climatically, of any form of disease, is *purity of the air.*

In briefly discussing the Buxton climate it will be convenient to consider it in the following order: (1) elevation above sea-level, (2) geological formation and subsoil, (3) sparseness of population, (4) conditions of vegetation, (5) wind, (6) temperature, (7) rainfall and snowfall, (8) sunshine and light, (9) dryness of air, (10) purity of air, (11) its value in the treatment of certain diseases.

Elevation above Sea-level. — The altitude of Buxton exceeds one thousand feet, and in this respect the place enjoys a pre-eminent advantage over all other English health-resorts, being situated in the north-western division of Derbyshire, in the district called the High Peak, a vast tract of upland which may be roughly said to extend about fifteen miles in one direction and twenty miles in another. The hills surrounding the town rise still higher, some attaining a height of about 2,000 feet. Besides conducing to the purity of its air, this high elevation of Buxton affords advantages of atmospheric pressure which are of great value from a sanitary point of view. The difference in the barometric pressure at the lowest level of the town is about one inch compared with that shown at a seaside level, whilst this difference is proportionately increased as we ascend the surrounding higher grounds. Thus the air is more rarified and of less density than that in the low-lying districts—lessening the blood pressure in the body and causing the blood to circulate more freely through the system.

Geological Formation and Subsoil.—The nature of the subsoil also exerts a potent influence upon the climate of Buxton. As elsewhere stated, one part of the town is situated on the mountain limestone, and the other on the millstone grit, these two geological formations meeting at the lowest level of the town. From a sanitary point of view, no two formations could excel these, both being excessively dry and pervious to moisture. With the powerfully absorbent qualities of lime all are familiar; and when it is added that the limestone extends for many miles in various directions from Buxton, and lies within a few inches of the surface, its drying and purifying effects will be at once apparent.

Sparseness of Population.—The resident population of Buxton, including Fairfield and Burbage, is less than 10,000. The houses, as a rule, are built well apart, the streets and roads are wide, and every precaution is taken under the Local Government Board of Health Act to secure proper ventilation of dwellings and to prevent overcrowding. The nearest large centre of population is Manchester, which is 24 miles distant, and there is no town of any considerable size within a radius of 12 miles. Indeed, all the populous centres are separated from Buxton by mountains, rocks, high moorlands, and vast tracts of hilly pasture lands, which together form a sanitary cordon around this favoured town, surpassing all that the art and science of man could devise.

Conditions of Vegetation.—It is often said that the landscape around Buxton is lacking in vegetation. This results, of necessity, from its great elevation and rocky subsoil. But, instead of being a disadvantage, this condition is an advantage to health; for where vegetable life abounds, there vegetable

decomposition must also abound, and *vice versa*. Wherever there is life there is a corresponding amount of death, and necessarily the products of decomposition which conduce to disease. The scantiness of vegetation about Buxton is therefore an additional source of the salubrity of its climate.

Wind.—As might naturally be expected at such an elevation breezes and high winds are not unfrequent, but they are considerably modified and tempered by the protecting influence of the surrounding hills. Nor are they without beneficial influence on the climate. They provide a constant and effectual change of air, and prevent that atmospheric stagnation which is so often found in pent-up and low-lying districts, and which is certainly injurious to health.

Temperature.—The temperature of Buxton is low, the mean average for some years past being 45° 2″ F., being 3° to 4° lower than that of the rest of England. This, however, is really an advantage rather than a disadvantage, for (contrary to the commonly accepted notion that cold is prejudicial to health) a low temperature is conducive to the preservation of health, and in many cases to restoration. It may seem incredible, but it is a matter of constant experience, that patients get more benefit from visiting Buxton in winter, spring, and autumn than in the hot months of summer, and this applies to the most varied sorts of complaints. It has been a matter of observation with me for some years past that the cases that come to Buxton do worse in hot seasons than cool seasons, even though the former be dry and the latter very wet. The percentage of cures in cold weather is greatly in excess of that in hot weather. I had often been struck with this fact before, but I received a remarkable illustra-

tion of its truth in the summers of 1887 and 1888. The former (Jubilee year) was very hot and dry, and the benefit derived by patients was less than usual. The latter summer was exceptionally cold and wet, and the benefit derived was remarkable.

Rainfall and Snowfall.—The rainfall of Buxton is rather high, and in winter there is often much snow and frost. The rainfall for the past twenty years has averaged about 51 inches. The surrounding hills attract the clouds, but they are frequently broken on the western heights, or pass away to the south-west of the town without touching it. In the most rainy weather, however, the air is fresh and wonderfully free from mists; and here undoubtedly the great area of limestone formation exerts a favourable influence—soaking in the rain and absorbing with avidity the moisture from the air. This is seen after a heavy fall of rain, when, in a marvellously short time, the roads become quite dry, and sometimes even dusty. Fog is very rare indeed, and, when mist does occur, it is of short duration and speedily dissipated.

Sunshine and Light.—It must be admitted that the amount of bright sunshine at Buxton is not great, compared with some health-resorts, but it possesses the compensating advantage of a degree of intensity of light rarely met with in other parts of this island. The value of light in the climatic treatment of disease should not be overlooked, as it undoubtedly plays a not unimportant part in the restorative process.

Dryness of Air.—From the foregoing it will not be surprising that the air of Buxton is rather dry. The more rarified and cold the air, the less watery vapour is it able to hold in suspen-

sion. Hence Buxton is free from that dampness and mugginess of atmosphere so frequent in lower lying districts.

Purity of Air.—Of the purity of the atmosphere of Buxton it is impossible to speak too highly. As already shown, its altitude removes it from the level which is conducive to the generation and support of bacteria or disease germs; and its isolation from populous communities, its thinness of population, its scantiness of vegetation, its powerfully aseptic and purifying subsoil, and its low temperature, are additional influences tending not only to prevent the generation of such living organisms, but also to effect their destruction.

Value of the Climate in Certain Diseases.—It would be utterly impossible in a work of this kind to treat of the many and various diseased conditions for which such a climate is beneficial. I can only indicate briefly some, in connection with which I have had frequent experience of its curative influence.

The diverse action of different climates on the system may be compared to that of various medicines. Whilst some climates increase the appetite, improve digestion, and brace up the general system, like some drug tonics, others diminish the appetite, disturb the digestion, lower the nervous system, and produce languor and general depression in a similar way to many drugs, such as morphia. These latter climates are therefore to be avoided, as tending to lower the vital processes, and encourage the progress of disease. The matter of first importance in choosing a climate for the treatment of any given case of disease, is that it shall have a powerful influence upon the process of nutrition. It may be accepted as an established fact that no disease whatever can come to the human body without some disturbance of the process

of nutrition playing the chief part in the diseased condition On the other hand, in no form of disease can there be any repair or cure without the intervention of the same active process. In short, all forms of disease are forms of disturbed nutrition, and all successful treatment must be directed towards restoring the nutritive process to its normal condition.

It is this restorative influence on the process of nutrition which is such a remarkable characteristic of the climate of Buxton. The air of Buxton improves the appetite and digestion, raises the quality of the blood, braces the nervous system, improves the circulation, and gives tone to the muscles. In consequence of its rarity and lightness, the blood pressure is reduced, more blood flows to the surface of the skin, which becomes better nourished and more active, internal parts are relieved from congestion, and *thus the elimination of used-up or diseased matters is facilitated.* It cannot be doubted that it is mainly to this latter influence that many of the cases of rheumatism and gout, which are accompanied by enlargement and deformity of joints, owe the improvement they receive. This has frequently been observed by me in cases in which it was impossible to use baths; for instance, in that of a young married lady who was so crippled with rheumatic gout as to have lain and been carried on an invalid's couch without ever being removed from it, save once or twice, during eight months previous to her visit to Buxton. In this case the improvement was very remarkable; although every joint in the body seemed more or less fixed (even the jaw being affected so as to prevent proper speech and mastication), and although the poor sufferer had lain on her back so long a helpless and emaciated prisoner, literally being consumed by the disease, wheeled out into the open air for some hours daily, the patient speedily improved in appetite, a healthier process of nutrition

was established, and with it diseased action was reduced, as was evidenced by the loosening of the joints and the reduction of the pain and swelling. In these cases drugs and baths seem utterly useless until the disturbed nutrition can be remedied. In the air of Buxton we have a restorative remedy of the highest value.

In painful diseases of the nerves, such as sciatica, lumbago, intercostal and facial neuralgia, the air of Buxton is invaluable. In these cases the results are truly marvellous. The air not only improves the general health, which in such cases is very important, but also seems to exert a special influence on the diseased nerves, probably restoring their impaired nutrition and thus effecting a cure. My experience of the benefit derived by these cases is so great that I feel warranted in saying that I know of no other climate that yields such remarkable results.

Many persons suffering from forms of heart disease also derive great benefit from a sojourn at Buxton. The low atmospheric pressure relieves the weakened or embarrassed organ and reduces strain. The pure and bracing air improves the quality of the blood and promotes repair of damaged structures. Certain it is that many such sufferers can breathe with comparative comfort here, who elsewhere experience great difficulty.

It is an important fact, but one to which little attention has been drawn, that cases of phthisis are most beneficially influenced by the climate of Buxton. The principle is now accepted by the most eminent authorities on this disease that cold and high climates are the best for its treatment. The old idea that cold is injurious and warmth is beneficial in consumption has been proved incorrect. Hence, instead of sending such cases to warm and relaxing climates, physicians now recommend them to mountain health resorts during winter where the ground is rarely free from snow and the thermometer often below zero. In such

places the patient is advised to take frequent outdoor exercise and often to sleep with bedroom window open. The results of such treatment more than justify it, as probably thousands of poor sufferers who have been sent to Davos-Platz and other alpine resorts during the past few years have returned cured of their terrible complaint. The great distance from home, the costly travelling, the fatigue of so long a journey, and often the inadequate accommodation and lack of English comforts in these Swiss health resorts, debar many English sufferers from venturing thither. Such considerations as these render the question of an alternative place at home combining some of the necessary peculiarities of climate and situation one of intense interest and importance.

For several years past I have been giving attention to this question, and my observations have led me to the conclusion that Buxton possesses these peculiarities in an eminent degree. Its altitude, the coldness of its air in winter, the purity and bracing character of the atmosphere, and other advantages of climate previously mentioned, point to it as the only place in Great Britain that can claim to rank in any degree with the continental stations referred to. And so far as my observation goes of the influence of the Buxton climate on cases of phthisis, this opinion is borne out by the successful results. Again and again do we see cases of consumption not only benefitted but cured by a sojourn in Buxton. The speedy improvement in such instances is often very remarkable. The appetite and digestion are improved, the blood is enriched, nutrition restored, weight increased, ulcerated mucous membranes or cavities in the lungs healed, and the progress of the disease arrested. Sometimes, at first, the cough is increased by the cold, but this soon passes off as the appetite and nutrition are improved by the same cause.

Thus, whilst warmth soothes the cough in phthisis, it decreases the appetite and strength ; and on the other hand, whilst cold at first increases the cough, it improves the strength and checks the disease. This is comparable to the action of certain drugs, such as opium and other sedatives, which, although relieving the cough, do so at the expense of the appetite and digestion, and thus lower the general health and encourage the progress of the disease. Cold may be compared to tonic drugs, which although not soothing to the cough, tends to build up the health and strength of the patient. In consequence of the deep-rooted prejudice which has so long prevailed against the use of such a climate as Buxton in consumption, the cases resorting to it, suffering from that disease, are at present not very numerous, although of late years the number has increased considerably. The writer is, however, confident that as the advantages of the climate in such treatment become more widely known amongst the medical profession, Buxton will come to rank as one of the most popular health-resorts for the treatment of consumption.

It now only remains for me to recapitulate the physical peculiarities of the Buxton climate which conduce to the beneficial effects in phthisical disease, and to give a suggestion or two as to the best time of the year for such cases to visit Buxton.

The beneficial peculiarities are—(1) The purity of the air, the high elevation excluding the presence of disease-germs; (2) the coolness of the air, especially in the winter season, which conduces to the destruction of the tubercle-bacillus contained in the lungs of sufferers ; (3) the rarity of the atmosphere and the low barometric pressure which, together with the coldness, cause increased respiratory action—a sort of pulmonary gymnastics ; (4) the comparative absence of mist ; (5) the dryness of the air and subsoil ; (6) the large amount of ozone ; (7) the intensity of

the light. All these things combine to improve the quality of the blood and the process of nutrition; to destroy the germs of the disease and heal the ulcerated parts; and generally to bring about the restoration to health and strength.

The best time of the year for consumptive patients to visit Buxton is undoubtedly winter. It is from the beginning of November to the end of March that the air possesses its maximum of purity and bracing qualities. Of course, such patients may make their visit in summer, and should do so rather than risk extension of the disease by delay. In winter the patient should clothe warmly, but not too much so. He should take frequent but gentle outdoor exercise, avoiding fatigue. On wet or stormy days he should remain indoors, but take exercise from one room to another, and at all times avoid overheated and badly-ventilated apartments. The diet should, of course, be well regulated, and suited to the case.

It may be objected by some that the climate of Buxton comes very far short of such alpine health-resorts as Davos-Platz in its altitude, temperature, amount of sunshine, and other physical peculiarities; but I hold that the superior accommodation, better sanitary arrangements, better food, greater accessibility, and the avoidance of long separation from one's family, are a good set-off in favour of Buxton.

It is much to be regretted that no special hospital exists for the reception of poor consumptive patients. Such an institution would be of inestimable value in affording the climatic treatment to many sufferers, especially in large manufacturing towns, who, although afflicted with the most terrible of English diseases, are practically excluded from ordinary hospitals. Such an institution would also afford an opportunity of studying the climatic treatment systematically, and of acquiring statistics of a valuable kind.

CHAPTER XI.

ON BATHS AND BATHING.

When we consider the important position which the bath has always occupied in the treatment of disease, it is somewhat surprising that so little has been written upon the general subject by English authorities. Foreign medical literature abounds with works of this class, and those of Dr. Julius Braun and Dr. Leichtenstern are examples of patient scientific investigation in the region of hydro-therapeutics.

A popular notion prevails very widely that baths can be taken as a rule with impunity, and that it is not necessary to apply to them the usual principles which regulate the use of other remedial agents. It must never be forgotten that baths follow the law as to the action of all remedies for the relief of disease. They must be both prescribed and dispensed according to certain rules which should regulate the treatment of every case according to its individual merits.

I propose, therefore, to devote this chapter to a brief description of the several forms of baths which are in most common use.

The Cold Bath.

To many it may be a surprise to be told that the first effect of a cold bath is to produce heat in the body. Yet it is a fact which the researches of Liebermeister have proved,

that a cold bath, when not too prolonged, really raises the temperature of the body by increasing the oxidation of tissue. This, then, is the tonic and stimulant effect of a cold bath, but to obtain it the bath must not be too severeely cold nor too long continued. The secondary effect of a cold bath is that of a depressant. When the bath is prolonged beyond the stage of stimulation it becomes a direct depressant, debilitating, and lowering the temperature of the bather, and in weakly subjects may produce serious exhaustion. Thus the pulse and breathing, at first quickened, are slowed as the bath is prolonged; numbness and the peculiar appearance of the surface called goose-skin are produced; a marked impression is produced on the nerve centres, evidenced by trembling limbs, weariness, and lassitude. It is this depressing effect of the cold bath which has been utilised with such extraordinary results in the reduction of the high temperatures in fevers and other diseased conditions where the tissue waste and increase of body-heat are such as to often be incompatible with life. Our present certain and scientific knowledge upon this subject is due mainly to the labours of Dr. C. Liebermeister and Dr. T. Lauder Brunton.

If a cold bath be taken and not prolonged beyond the stimulating and tonic stage, it is succeeded by a sense of warmth and vigour. There is a general reaction, and the patient feels refreshed. Cold baths should never be taken during fatigue; hence the very young, the aged, and infirm, or persons suffering from cardiac, or exhausting diseases, are precluded. As a rule the bath should not occupy more than four or five minutes, and if it is not followed by immediate reaction, either the bath has been prolonged too much or the patient ought not to take cold baths. Morning is the best period of the day for taking a cold bath.

The Warm Bath.

The temperature of this bath varies from 90° to 96° Fahr. In the case of cold and warm baths very diverse influences are produced upon the system. The warm bath produces effects opposite to those of the cold bath. The cutaneous blood-vessels become turgid, and the general circulation is accelerated. Braun says: "Upon the muscles enfeebled by disease a person finds a stimulant in a cold bath; he feels disposed to take more exercise, and the wise use of the cold bath leads to increased tissue change. On the other hand, a warm bath is the charm to a weary, violently fatigued muscular system. This weariness is due to an excessive accumulation of functional products, and the increased physical heat facilitates oxidation, and a warm bath insures, at the right moment, hours of physical repose. It is related that Napoleon took a warm bath in order to continue his march at night and to fight another battle on the following day."

In the case of warm baths, just as in that of cold, great care should be exercised in their use, especially if there is disease of the heart, lungs, or brain. The patient may remain, as a rule, longer in the warm bath than in the cold bath—generally from 10 to 20 minutes. Although usually early in the day is the best time for taking warm baths, they are frequently taken at bedtime with advantage.

The Hot Bath

Varies in temperature from 100° to 108° Fahr. This bath is a most powerful stimulant and cardiac excitant. It should be used with extreme caution. Persons who are liable to hœmorrhages of any kind, of apoplectic tendency, or who suffer from cerebral or cardiac troubles, are precluded from taking these hotter forms of baths.

The Hot-Air or Turkish Bath.

This consists of the immersion of the whole body in an atmosphere of hot dry air, as in the sweating-room of a Turkish bath, or in merely exposing the trunk and limbs to such an atmosphere whilst the head is left free as in the box hot-air bath. In the former case the heated air is breathed into the lungs, but in the latter, the head being free, the patient breathes only the air at the ordinary temperature. The immediate effects of a hot-air bath are increased action of the skin; there is a turgescence of the capillaries and a pouring out of sweat from the sweat-glands. The sweat being converted into vapour, absorbs much of the heat, and it is probably due to this that the temperature of the body remains almost normal even when exposed to temperatures enormously higher than that of the body normally. I shall speak of the physiological and therapeutical effects after describing vapour baths.

The Vapour Bath.

On account of the immediately powerful effects of a vapour bath on the skin, it is perhaps a stronger sudorific than the dry hot-air bath. The bath is similar to the hot-air bath, the difference being the introduction of more or less vapour which mixes with the hot air. There are various forms, such as the Russian, Bertholet, &c. In this bath the individual is unable to bear such high temperatures as in the hot dry air bath, inasmuch as the evaporation of the sweat is hindered by the moisture-laden atmosphere. Equally good results can, however, be obtained at a much lower temperature than with dry air, and the breathing of the moist air is most frequently a distinct advantage, for not only is it free

from the irritant effects of the dry hot air upon the respiratory tubes, but the vapour acting upon the mucous membrane acts as an expectorant, and produces effects thereon analogous to those produced on the skin.

A curious instance of a natural vapour bath is that of the *Grotto of Monsummano*, situated near Pistoja, on the south side of the low Tuscan Alban range. It consists of several wide passages, the walls of which are lined with stalactites. In the grotto are several deep pools of water, at a temperature of about 95° Fahr. This water contains salts of lime, soda, and magnesia, together with a considerable amount of carbonic acid gas. By the evaporation of the thermal water the temperature of the air in the grotto is raised from 84·2° to 95° Fahr., varying in different parts of the grotto. Patients suffering from various complaints resort to this natural vapour bath, and attired in a large shirt and leather slippers sit for longer or shorter periods until profuse perspiration is induced. It does not appear that much, if any, of the carbonic acid gas rises with the vapour, otherwise the patients would be unable to breathe the air during the long periods they remain in the grotto.

The Russian Vapour Bath.

This bath consists of a room or compartment filled with vapour or steam. In Russia the volume of steam used is very dense, and the skin is further acted upon by the attendant striking it with a rod of birch twigs previously dipped into hot water. Speaking of this bath, as carried out in Russia, a modern writer says: "The Russian bath is a thing *per se*. It consists of a room, not lofty, furnished with a large oven, several rows of benches at different stages of elevation, and a large tub of water. When the oven is glowing hot, water is thrown on it

from time to time, that a vapour may be produced to fill the room. Among the most essential requisites of the bath are bunches of birch twigs with the leaves on. Previous to being used they are dipped in water to make them soft and pliant. With this bunch of twigs the body of the bather is well flogged all over. A Russian bath in full operation is a scene almost beyond description. A crowd of old and young in a state of nudity enjoy the luxury of the bath, and laughing, jostling, and talking, pour almost scalding water upon their bodies, and then rub and flagellate each other with the birches. This done, they rush out, in the same costume, and complete the operation by rolling themselves in the snow, or plunging into cold water." As carried out in this country, the Russian bath is a much less formidable affair, and I am informed by a lady patient for many years resident in Ruissa that, although so common there, these baths in Russia are of very primitive construction, and wanting in the luxury and comfort of the English form of this bath.

Physiological and Therapeutical Effects of Hot-Air and Vapour Baths.

The great importance of hot-air and vapour baths demands a few special remarks upon their physiological and therapeutical actions. The primary effects of these baths are to produce a hyperæmia of the skin; profuse perspiration, and a heightened temperature of the blood. It is, however, a remarkable fact that although the temperature of the bath exceeds that of the blood by 20° to 60° Fahr., the temperature of the blood itself is only raised from 1° to 5° Fahr. The temperature of the blood is kept low by the rapid evaporation, which takes place on the surface of the skin and from the lungs. Hence vapour baths cannot be borne at such high temperatures as the Turkish bath. In the former the

dense moist atmosphere tends to impede the evaporation and cooling process at the cutaneous and mucous surfaces, whilst in the latter case the dry hot.air is more favourable to this process.

Besides the increased quantity of water and solid constituents excreted by the skin, it is said that the proportion of urea is increased by the action of the hot-air or vapour bath.

Braun draws particular attention to the following points in connection with vapour baths: (1) "It is not merely the atmosphere saturated with vapour which comes into contact with the skin, but also condensed vapour, *i.e.*, fluid water which deposits itself on the cooler skin, and mitigates the heating effect of the vapour. (2) The same process takes place on the respiratory mucous membrane, where water from the warmer air inhaled also becomes cooler and deposits itself. (3) For these reasons, the vapour bath can be borne at a far higher temperature than the water-bath, and the Turkish air-bath can be taken much better than the vapour-bath. (4) The respirations in the Turkish and vapour baths become accelerated, and under some circumstances even dangerously so; the pulse is frequent, at first full, but gradually, with a very high temperature or a long duration of the bath without decrease of heat, becoming small and imperceptible. (5) Water is deposited on the respiratory mucous membrame, and acts as a direct mechanical expectorant. (6) The great heat of the skin is a preparation for the effect of the cold form of bath which almost always follows."

Always bearing in mind the necessity of a lower temperature, it will be evident that the vapour bath is a more useful form of bath than the Turkish air-bath. Not only can the same sudorific effects be produced with a lower temperature (for, although evaporation is less than with dry air, I am inclined to think that the amount of sweat is not reduced), but the water deposited on

the mucous membrane of the bronchial tubes has a soothing and less irritating effect than hot dry air, and as we have seen acts beneficially as a mechanical expectorant. This is a matter the importance of which has not been sufficiently recognised, but which a constantly-increasing experience convinces me is of the highest practical moment. The *therapeutic effects* of the vapour or hot-air bath will now be readily understood. In *catarrhal* or *common colds* the free action of the skin which is induced relieves the turgescence and inflammatory condition of the mucous membranes; in sluggish and torpid conditions of the skin the glands are excited to more healthy action; in rheumatic and gouty deposits or exudations absorption is promoted by the artificially-induced hyperæmia; nor can it be doubted that profuse and frequent sweating of the skin promotes the elimination of many of those morbid products which are essential elements in the causation of the many diseased conditions due to faulty elimination.

Sea Baths.

In sea bathing the effects are much the same as those of an ordinary cold bath. The first effects are stimulating and tonic, but if the bath be prolonged it depresses the system. There is a theory that the constant motion of the water increases the stimulant effects and promotes reaction. Whether this is so or not it is certain that the effects of sea bathing are closely associated with the climatic influences. Sea air and sea water must go together, or probably the results will not excel those obtained from the ordinary cold bath. The sea bath will be found most useful in those conditions of weakness and debility where no definite organic disease exists. It should be avoided in all those cases where the ordinary cold bath is contra indicated. The period of immersion should be short, varying from a few

seconds to a quarter of an hour. Generally speaking about six minutes is sufficient. If prolonged beyond the stimulant stage the body-heat is reduced, and the circulatory and nervous systems are depressed.

Douche Baths.

The practice of water-douching is an old one. The Romans used it as the Russians use it now by the rude, albeit effective, method of pouring or pitching water upon the body from a bucket or pitcher. This primitive method has now given place to more elaborate modes of application, some of which I shall describe later on. Water applied as a douche is undoubtedly more stimulating than as an ordinary bath, and it appears very likely that it promotes absorption of inflammatory deposits and exudations by exercising a stimulant effect on the lymphatic system. There are two principal forms of douches used—*the Dry Douche* and *the Wet Douche*, or *Under Current.* These are variously modified as the Horizontal Douche, the Descending Douche, the Ascending Douche, the Needle, or *Douche en Circle*, the Aix-les-Bains Massage Douche, and the Reclining Massage Douche.

The Dry Douche.

This consists of the application of a stream of water either as a single jet or through a rose. It is given at varying temperatures and pressures, and the time varies from half a minute to ten minutes or longer. It is used chiefly as a stimulant to joints and the spine.

The Wet Douche or Under Current

Consists of the application of a stream of water through a nozzle or rose to the body of the bather whilst immersed in a bath, the current

of water rising from beneath the bath and striking the part to be douched, or the douche is applied from the ordinary dry douche tube to the parts immersed in water. In this douche the water offers a resistance and breaks the force somewhat, and thus we are provided with a douche applicable to the more sensitive parts of the body, such as the abdomen, for instance. It can, of course, be used hot or cold, and the time may be longer than in the case of the dry douche.

The Needle Bath, or Douche en Circle.

This is simply a modification of the dry douche. It consists of a series of horizontal pipes bent to form about three-fourths of a circle, and arranged in vertical parallels five or six inches apart. The pipes being perforated with small holes, the patient standing in the centre of the circle is douched with a vast number of minute jets of water, which, striking the body, produce a very agreeable sensation. It is given at different temperatures, and is very useful in hysteria, neurasthenia, and various functional disorders especially of the nervous system. From one to five minutes is the usual time.

The Ascending Douche

Consists of an ascending jet or spray of water, and can be either given dry (direct) or wet (indirect). It is a most useful bath in hæmorrhoids and prolapsus ani, or uteri; in leucorrhœa, uterine congestions, irregular and painful menstration, this form of douche is extremely valuable. It is scarcely sufficiently appreciated in this country, whilst at some Continental spas, such as Aix-les-Bains, Marlioz, Ems, and Kreuznach it is used most successfully.

Massage Douche Bath.

Massage douching has hitherto been carried out almost exclusively at Aix-les-Bains, where the system is extensively practised. It has recently been introduced into England, and promises to become an exceedingly useful method of treating various forms of chronic disease. The Aix-les-Bains bath consists of a douche-room communicating with one or more dressing-rooms. The floor of the douche-room, which is tiled, is situated on a level lower than the dressing-rooms, and is covered with three or four inches of hot water. The patient being seated on a wooden chair and the feet raised on a stool, is operated upon by one or more attendants, as the case may be. If two attendants, one takes his position at the back and the other in front. The water, which is used hot at a temperature varying from 95° to 105° Fahr., is conveyed in a strong indiarubber hose of large calibre. The "mélange," used to the back, is fitted with a rose, and the "jumelle," used to the front parts of the body, is fitted with a nozzle. The douches are of varying power, and are played upon the body by the attendants, who at the same time massage the parts, moving the joints and manipulating the muscles whilst softened by the hot water. This process lasts ten to fifteen minutes, and then the bather, standing in a corner of the douche-room grasping a hand-rail, is douched down the spine with a powerful jet of water, warm or cold. He is then placed under a shower *(un appareil de grand chute)*, which, commencing warm, is gradually reduced to as cold as can be borne. After this he is conducted to the dressing-room, and being enveloped in towels, sheets, and blankets, he reclines upon a couch, and after having cooled down he is allowed to dress.

At Aix-les-Bains the wet massage is often followed by a

process called the *Maillot*. This consists in wrapping the patient in sheets and blankets, and immediately conveying him to his hotel in a sedan or bath chair, where he is put to bed for a short time, perspires freely, and is then gently rubbed dry. In delicate patients this process is very useful, as it saves the fatigue of dressing until they have become refreshed by rest.

The Scottish Douche.

This is a form of douche not so much known as it deserves to be. It is sometimes called the *mixed douche*, consisting as it does in the frequent alternation of jets of cold and warm water. It is said to adhere very closely to the principle which obtains in organic life of alternate phases of cold and heat, stimulation, and contra-stimulation, excitement, and rest. It has been found a useful remedy in some forms of paralysis, and is efficacious in many cases of neurasthenia.

The Action of Douches.

The effects of the various douches are partly *mechanical* and partly due to the *temperature*. The mechanical effects of the douche vary considerably according to the pressure and the volume of the jet used. Sometimes these effects are those of mere friction, at others they amount to violent pressure sufficient to cause severe bruising of the skin and adjacent tissues. It is to this violent effect that the absorption of many diseased swellings is due.

The *cold douche* is more stimulating than the cold bath, and is less depressing in its secondary effects, on account of the refrigerating influence resulting from the motion of the water being unequal and variable. When applied locally it is quickly succeeded by hyperæmia of the parts and increased action in the form of absorption, change of tissue, and even the formation of new tissue.

The *warm douche* is milder than the cold, and its effects are more mechanical. There is not that withdrawal of heat and subsequent reaction which attend the cold douche. The effects of the warm douche have been likened to those of shampooing, and do certainly partake of the character of kneading the tissues. It can be used in many cases where the cold douche is in applicable, since it does not draw so much upon the reserve power of those who are too weak to bear the reaction consequent upon the cold douche.

The effects of the douche, which are due to the temperature of the water, are, of course, the same effects which pertain to ordinary baths of different temperatures ; in fact, they are the effects of cold, warm, or hot baths, as the case may be.

Sand Baths.

These baths are formed by the heating of sand to a temperature of from 110° to 120° Fahr. on hot iron plates. The sand being carefully mixed to insure a uniform temperature, it is applied to the lower extremities in a layer three or four inches thick, and to the abdomen and chest about half an inch thick. The great advantage over the hot water or vapour bath claimed for the sand bath is that various degrees of heat can be applied to different portions of the body at one and the same time by the simple expedient of heaping up hotter sand on some parts than on others. The effects are to produce immediate redness of the skin and profuse perspiration, the sand next to the skin forming a crust which at the close is removed by a warm water bath. The great drawback is that, in consequence of the incrustation of sand, there is an abnormal increase of the heat of the body, amounting to from 2° to 4° Fahr. It is used in gout, rheumatism, and Bright's disease.

Moor and Peat Baths.

These baths, although very popular at many Continental spas, are practically unknown in England. It has, however, often occurred to me that they might be used with advantage at places such as Buxton, Matlock, Ilkley, and other spas, especially in Yorkshire, Scotland, and Ireland, which have the advantage of near proximity to considerable tracts of moorland.

The Moor Bath is prepared by saturating the moor earth with water and sometimes with steam. This is afterwards mixed with hot water, and the whole reduced to a pultaceous mass of as smooth a consistency as possible. For this bath a wooden bath is generally used. The temperature at which it is given varies from 90° to 100° Fahr. The patient remains in the bath from a quarter of an hour to three-quarters of an hour, as the case may be, and then enters an ordinary warm bath to wash off the earthy matter. This done, he is carefully dried, and then usually rests for a short time before dressing. The composition of the moor-earth is very interesting, chemically. Franzenbad peat was found to consist on analysis of 1,000 parts of the dried mud, of 439 parts of ascertained chemical constituents, embracing protoxide of iron, sulphates of soda and lime, chloride of sodium, alumina, magnesia, and silica. In addition it contains humic acid, ulmine, resin, and various vegetable substances. Other organic substances, such as formic acid, are probably in constant formation and transformation. Gases, such as carbonic acid and sulphuretted hydrogen, are found, but in varying and uncertain quantities.

The action of these baths is similar to that of warm baths. Braun says: "The effect of moor-baths appears to be *that in many cases when, from individual causes, the thermal system cannot be borne on account of its too stimulating action, the effect of this system is produced by moor-baths without causing this over-excite-*

ment." The influence on the skin resembles that of brine baths, the skin being stimulated and reddened by contact with the mud.

It is difficult to explain the effects of these baths—effects which are as remarkable as is their popularity on the Continent—and although so rich in chemical constituents it would appear that it is more to the physical than the chemical constitution of the moor or peat bath that we must look for the cause of such effects. In these baths the patient is, as it were, immersed for the time being in a huge poultice, and it is easy to conceive that the good effects may be mainly due to the heat and remarkable density of the bath. Undoubtedly such baths are very useful in many cases of gouty and rheumatic enlargements and contractions, in sciatica and diseases of the skin, in chronic uterine inflammations, and in some forms of paralysis.

In addition to moor baths, *mud baths* are in great repute on the Continent, especially at Pystjan and Teplitz-Trencsin, in Hungary. They are also used at Amand-les-Eaux, near Valenciennes, in the department Nord. These baths are prepared with the mud deposited from the natural springs of those spas. Baths prepared from *sea mud* are much used in Sweden and the Russian Baltic provinces.

Pine Baths.

Pine Baths have been very extensively used on the Continent for years past, but only recently have they become a popular remedy in this country. To make one of these baths it is usual on the Continent to use two concentrated fluids, one containing etherial oil of the pine leaves, and the other a decoction of pine leaves, which are added to the bath. In England it is now common to use the imported essence or extract of the *Pinus Pumilio*, which grows among the Alps in regions of perpetual

snow. The preparations imported by G. and G. Stern are excellent for this purpose. These concentrated preparations are mixed with the bath in varying proportions.

Pine baths are reputed to be very efficacious in chronic muscular rheumatism without much exudation. They excite the skin powerfully, and the resin, turpentine, and etherial oils being more or less volatile penetrate the skin, and are to some extent absorbed into the circulation. Whether the good effects of these baths are due to some specific influence of the bath or to the auxiliary surroundings of pure forest air, combined with quiet and plain living, is a question very often discussed and as often doubtfully answered. There is no doubt, however, that a great number of cases do benefit by these baths either alone or when combined with other warm baths, especially sool or salt baths, as is common practice in some places

CHAPTER XII.

ON ABSORPTION IN BATHS.

One of the greatest fallacies associated with balneo-therapeutics is the popular notion that powerful absorption through the skin takes place when the body is immersed in a bath. Especially has this been held in connection with the use of such mineral water baths as those of Buxton. Dr. W. H. Robertson, in his guide to the use of the Buxton waters, assumes this doctrine to be correct. He says, page 200 : "The absorption of the water through the skin into the system seems indispensable to the effect of bathing in any mineral water. This absorption is secured and promoted by bodily exercise, by friction of the surface of the body, during the use of the bath." Nor is this notion confined to physicians whose special Spa practice it might be thought would possibly prejudice their minds in favour of such an hypothesis ; even so high an authority as Sir Alfred Garrod seems to assume that it is correct. The researches of modern physiologists have proved, however, in my opinion beyond doubt, that the assumption of absorption is a fallacy. Krause, Leichtenstern, and others have shown that water and salt only penetrate the most superficial layer of the skin, and that immediately after immersion the water evaporates and the salt scales off the body. The body may be immersed for a long time in hot or cold water, but the quantity taken up by even the cuticle is so small as to be inappreciable by weighing. The sebaceous glands and the fatty

secretions on the cutaneous surface form a sort of waterproof barrier against the absorption of the water. There is, however, one exception to this, and that is in the case of the palms of the hand and the soles of the feet, which, being free from these glands, do imbibe the water.

Leichtenstern says (and one cannot quote a higher authority): "The palm of the hand and the sole of the foot having *no* sebacious follicles imbibe water most easily. Imbibation has not absorption as a necessary consequence, as it is probable the water imbibed by the most superficial layer of the epidermis evaporates immediately after a bath. The imbibition is, under the most favourable conditions, of such trifling amount that it cannot be determined. An absorption of the water and of the non-volatile contents dissolved in it in ordinary baths has not been proved. The outlets of the sweat and sebacious follicles are not adapted to the absorption of water."

It would appear that the skin absorbs substances that are volatile, in the form of gas or vapour, and even some non-volatile substances may be forced through the skin by friction and pressure. Whether any absorption into the blood takes place is another question. Although there is distinct proof of the power of the skin to absorb gases, it must not therefore be assumed that gases contained in water baths are absorbed into the blood. The blood contains three gases, viz., oxygen, carbonic acid, and nitrogen. Now, suppose a mineral water bath to be highly impregnated with one of these gases, the pressure does not exceed the tension of the same gas in the circulating blood and in the lymph, and therefore absorption of the gas cannot take place. This, however, does not apply to gases such as sulphuretted hydrogen, which are not found in the blood. From this it would appear that those theories as to the curative effects of the

Buxton thermal water being due to absorption of the nitrogen gas contained therein, are baseless, and, apart from the chemical objections which can be raised against such theories, they fall to the ground for want of proof of that initial and primary requisite, absorption. I grant that symptoms of apparent intoxication are sometimes observable in taking the Buxton bath, but such effects are not due to absorption by the skin of any gas contained in the water, but rather to the breathing of the carbonic acid gas found therein.

. Rohrig has pointed out an interesting fact in connection with this subject. He found by experiment that if a mineral water be pulverised or broken up into a fine spray and applied to the skin in that form, not only the water, but also its non-volatile substances, are absorbed. He ascribes this to the minute division of the water which enables it to penetrate the skin more easily. I have taken advantage of this fact in the new mode of application of the Buxton mineral water recommended by me in the Thermal Cure, and it may be due to the same principle that so much good often follows the application of mineral water in the form of the massage bath, as in the case of the Aix-les-Baines douches. But here again it is not clear that absorption really takes place.

I am quite aware that in the foregoing remarks I have advanced a good deal of what may be considered in some quarters heresy, but we have now arrived at an epoch when something more than mere blind assertion is expected from the physician who prescribes baths in the treatment of disease. Not only do eminent medical men who send their patients to spas, but also the public generally, require some scientific reason for the "hope that is within" the breast of the bath physician—mere empiricism will not now pass current. And better that it is so than that

teachings and practices savouring more of quackery and charlatanism should continue the opprobrium of an otherwise honourable and useful profession.

It is quite refreshing to find one of the leading physicians of Bath (Dr. H. W. Freeman), in a work he has recently published on the Bath waters, breaking through prejudice and expressing himself in the following courageous terms: "After all the *pros* and *cons.* as to absorption in baths have been critically discussed, the writer still contends that such does not take place."

The foregoing being the facts relating to the theory of absorption as regards mineral water baths, it becomes an interesting question whether the obstacles to cutaneous absorption are such as to allow of their removal. That this is so I have shown under another heading in this work. That the skin is unable to absorb *watery solutions* of salts or vegetable poisons is due to the fat normally present on the epidermis and in the pores of the skin. It therefore follows that the effectual removal of this fat, which forms as it were a waterproof coating to the skin, is the thing to be sought for. Now, although by sweating the skin, and thoroughly washing with soap and water, much can be done towards this object, this is not sufficient, and the skin still remains unable to absorb mineral water and its constituents, except in very minimal quantities. Knowing this, the question of how further to overcome the obstacle to absorption has occupied my mind for some years past, and about four years ago the idea struck me that this might be accomplished by taking advantage of a fact known to modern physiologists, and pointed out particularly by Parisot, viz., that "if the fat be removed from the skin by alcohol, ether, or chloroform, absorption may occur in a few minutes." I therefore availed myself of the peculiar facilities afforded by my connection with the Peak Hydro-thermal Institu-

tion, and engaged in experiments which resulted in the development of what I believe to be a more rational and scientific mode of the external application of mineral waters to the skin, and although originally used in connection with the Buxton thermal water the principle is applicable to that of any other mineral water, and might be used with advantage in the administration of the Bath, Harrogate, Woodhall, and other waters. The essential principle consists in the application to the skin of a highly rectified spirit, such as alcohol or chloroform, which should be lightly sponged over the surface before the patient is immersed in the mineral water bath, or before the mineral water is applied to the body in a pulverised form or spray. I believe I am the first to have applied this principle in the practice of balneology, but its reasonableness will commend it to the thoughtful and scientific mind. If it be desired to more certainly insure absorption, and if the circumstances are favourable, it may be done by first acting on the skin by a sweating bath, then washing off the sweat with warm water, or soap and water, afterwards sponging the skin with spirit, and, lastly, applying the mineral water in the form of fine sprays which, as before mentioned, Rohrig has pointed out is more readily absorbed on account of its finely broken up or pulverised form.

CHAPTER XIII.

MASSAGE: ITS PRINCIPLES AND PRACTICE.

The subject of massage has risen so rapidly in importance, and now commands such wide-spread attention, as to rank it as one of the most useful and valuable therapeutic agents at the disposal of the modern practitioner and his patients. Although massage was not unknown to the ancients, and has been practised in modern times by the various races of men in some modified form or other, it is only within a very recent period that it has been used in Europe and America to an extent so wide as to be almost phenomenal. With this popularity, however, there has arisen the danger common under such circumstances of the usefulness of the system becoming impaired by an unwarrantable mysticism on the one hand, and a vulgar debasement of the system on the other, both alike the result of gross ignorance of the true principles and practice of massage. To a medical man, conscious of the loyalty he owes to an honourable profession, and at the same time of the duty likewise due to the public at large, it is always a matter of some difficulty to write upon a subject which pertains to the treatment of disease. The subject of massage is one, however, with which the busy practitioner of to-day has, as a rule, had little or no practical teaching or experience, and with which, in any case, it is necessary that, if not the patient, the patient's lay attendants, should at least have some knowledge. The system, consisting mainly of the application of certain mechanical exercises in

the treatment of disease, exercises or movements often not only complex but tedious, laborious, and prolonged, no medical man, no matter how experienced he may be in the subject, can himself give the time and physical strength necessary for the wide use of such a remedy, should he be desirous of such. Hence it is absolutely necessary to look outside the profession for members of both sexes possessing the knowledge and skill essential to a proper and useful application of massage, just in the same way as we look for the skilled apothecary to dispense our prescriptions or the trained nurse to tend the sick. The number of those possessing a proper knowledge of massage, even amongst professed nurses, is woefully small, considering the importance of such knowledge and skill, and I may therefore be pardoned if I venture to add a chapter upon the subject. Treatment by baths and treatment by massage have become so intimately associated that no work upon the former subject would be complete without some reference to the latter. My practice in Buxton, combining as it does a connection with one of the largest hydro-thermal establishments in the country, has afforded me peculiar and extensive opportunities of observing the results of such treatment, and enables me to speak with some degree of authority upon the subject. My experience convinces me that in the scientific and judicious use of baths and massage we have one of the most powerful remedies at the disposal of the physician. Nor ought the fact to be overlooked that in health resorts such as Buxton peculiar opportunities are afforded for carrying out treatment by massage. This applies not merely to advantages of climate, waters, and baths, but also to the mode of life at a spa. The patient being free from business and other distractions, is able to give time and attention for the steady and persistent application of the treatment, which is often such a necessary condition of success in the use of massage.

There is considerable doubt as to the derivation of the term *massage*. I am inclined to agree with the opinion that it is derived from the Arabic word "mass," which means to press softly. As to the ancient use of massage there can be no doubt. It is mentioned by Homer, Celsus, Hippocrates, and Galen. Hippocrates described a process which he called *anatripsis*, or rubbing upwards. There is, it is said, a description of massage in a Chinese manuscript bearing date 300 years before the birth of Christ. Massage is practised in many parts of the East in the present day, not only in the treatment of disease, but as a courtesy to guests who may be exhausted and fatigued by travel or other exertion.

A very good definition of modern massage is given by Dr. Murrell, who defines it as "a scientific mode of treating certain forms of disease by systematic manipulations." It is this scientific and systematic mode of procedure which makes massage differ so essentially from the so-called medical rubbing, or shampooing. The writer just mentioned puts this very clearly when he says: "The manipulations are carried out systematically, in definite order and with a definite object. In medical rubbing these conditions, which are essential to massage, are considered to be of no importance, and the operator simply rubs and pummels his patient, without any regard to the anatomical arrangement of the parts, and usually without any very definite object. To perform massage a knowledge of anatomy is essential, whilst for rubbing and shampooing physical strength and endurance, with a certain knack, are all that is necessary. Shampooing is very useful in its way, but it is not massage, and can never take the place of massage. There is as much difference between massage and shampooing as there is between playing a difficult piece of music and striking the keys of the pianoforte at random."

From the foregoing the reader will infer that to make a good

operator in massage technical knowledge and dexterity of manipulation are essential requisites; therefore much patient study and practice are necessary on the part of those who would become proficient in the art. Undoubtedly there is here a wide opening for useful and honourable employment for many of both sexes, but none should enter upon such work unless they are possessed of the necessary mental and physical qualifications. Many persons have essayed to become *masseurs* or *masseuses* who were from the beginning totally unfit for such positions, and have consequently proved themselves signal failures.

Dr. Stretch Dowse, in his recent admirable and comprehensive work on "Massage and Electricity," has defined the standard of individuality for the masseur or masseuse as follows:—

"1. Good physique and good health absolutely essential.

"2. Cleanliness in every particular is of the greatest importance.

"3. An intelligent interest in the patient's welfare.

"4. Perfect devotion and zeal in carrying out fully and carefully the duties of the work to the minutest detail, so as to insure the confidence of the patient.

"5. Good temper and forbearance are necessary.

"6. Absence of fuss and undue haste.

"7. Intelligence and even refinement are advantageous.

"8. A happy, cheerful disposition, with vivacity and dexterity, readiness and ability, not forgetting a pleasant, contented face, complete the standard of individuality."

The hands should be soft, albeit powerful. They should be kept spotlessly clean, and work that roughens the skin should be avoided. Some masseurs use oil, vaseline, and other lubricants

on the hands when operating. As a rule, however, these should be avoided. All the best authorities agree that "dry massage," that is, with the simple hand, is the most efficient and satisfactory method. Of course, if the patient be suffering from some cutaneous affection it may be desirable to smear the hands with carbolised oil. The hands should be thoroughly washed immediately after every operation, and it is a good plan to wash them in oatmeal and water at bedtime, and occasionally to rub the hands well with glycerine and rosewater. These precautions will keep the hands in good condition for their work.

There are several forms of massage, and these I will now briefly describe. In America they go under the heads of *Friction*, *Percussion*, *Pressure*, *and Movement.* The Americans also often use a very expressive term called *Malaxation*, signifying "Kneading to softness." The terms used in Germany and France are, however, those which are most commonly employed in this country. They are: *Effleurage*, *Pétrissage*, *Tapotement*, and *Massage à Friction.*

Effleurage.—This word is derived from "effleurer: to skim over lightly.' It consists of movements of the hand over the surface of the body, which vary in force from the slightest touch to strong pressure. These movements are effected with the flat palm, the tips of the fingers, the ball of the thumb, or the outside edge of the hand. This form of massage acts principally upon the superficial veins, lymphatics, and nerves. It is important that the movements should always be made *in one direction*, that is, towards the heart. By this the flow of blood and lymph is accelerated in the proper direction. The fingers and thumb being fully extended, the tips of the former with the sides of the latter are slowly and lightly carried along the surface,

and then brought back with the slightest stroking movement to the position from which they started, the hand never losing touch with the surface operated upon. These movements, of course, vary in rapidity and pressure. Sometimes, when it is necessary to do rapid movements, what is called *overhand rubbing* is resorted to. This is done by using both hands on one part, one being brought to the position of starting just before the other finishes. By this plan very rapid movements can be effected, and powerfully exhilarating effects produced.

Pétrissage.—This word is derived from pétrir: to knead. Pétrissage is a kneading or muscle-squeezing operation. The attendant grasps a portion of the soft tissues between the fingers and thumb of one hand, or between those of both, and firmly kneads and rolls the parts, at the same time moving the parts in the direction of the venous current. The operation is somewhat similar to that of emptying a sausage. Pétrissage is a very useful form of massage for acting upon the deep structures, and is often used in conjunction with effleurage.

Tapotement—from tapoter: to pat or tap. This consists of the application of a number of sharp light blows with the outer edge of the hand, with the closed hand, or with the hand half closed so as to form a cushion of air between it and the parts struck. This form of massage is most frequently used to the back.

Massage à Friction.—This process is not so often required as the other forms of massage. It is used chiefly for the joints, and is made up of rapid double movements by both hands; one hand making strong friction longitudinally, and the other making at the same time quick circular movements across the joint.

Various instruments have been devised for performing the different kinds of massage, such as the *roulette*, *palette*, *strigel*, and the *sponge*, but they should never be used, and need only be mentioned here to be deprecated. The human hand is *par excellence* the instrument of all others most adapted for performing the many complex movememts and operations of massage. In addition to the foregoing forms of massage, I ought to mention *passive* and *active movements* of joints and muscles. Passive motion of joints is a very common part of the practice of massage, and of great assistance in breaking down adhesions and loosening stiffened joints.

Physiological and Therapeutical Effects of Massage.

In gentle effleurage or surface rubbing, the primary effect is on the skin and superficial muscles. There is stimulation and contraction of these muscles followed by hyperæmia of the skin. If deeper and firmer effleurage be practised, the circulation is hastened, and the heart beats more quickly. Kneading, or deep petrissage, has the opposite effect, the circulation being slowed and the heart pulsations reduced in frequency. This is explained by the increased quantity of blood which is induced to flow through the parts under manipulation. In addition to these effects on the blood circulation the temperature on the surface is greatly increased by massage. The effects on the lymphatic circulation are also very remarkable. The flow of lymph is quickened through the lymphatic vessels, and the lymph spaces are emptied of lymph by the muscular contractions excited by massage. It is thought by some that it is to its effects on the lymph circulation that the benefits of massage are mainly due; and when we remember that lymph is but the fluid left from the blood after it has performed its part in the work of nurition,

together with the waste products of tissue change, we can readily understand that a process which accelerates and assists the flow of the lymph must be highly beneficial.

Massage tends to increase the number of respirations, and also to deepen them, more air entering the lungs at each inspiration. Following upon this there is an increased excretion of carbonic acid and other waste matters by the lungs, and the blood is better purified.

The effects of massage on muscles are the most remarkable. Massée a muscle and it is at once roused into activity, contraction following contraction in rapid order, and a sort of pumping assistance being given to the circulation of the blood in the capillaries and veins and to that of the lymph in the lymphatics. In addition, fresh blood is drawn to the muscle in increased quantity, and its nutrition thereby improved. That massage increases the contractile power of a muscle has been proved again and again. If a muscle be exhausted by repeated electric stimulation until it is so fatigued that the strongest current will not move it, and then masséed for a short time, its power of contraction returns. So, if the arm be fatigued by quick and repeated lifting of a given weight until it is so exhausted as to be unable to move in response to the will, and then masséed for a few minutes, power returns rapidly. The effects of massage on the nervous system are very striking. Firm massage produces a bracing and stimulating effect, causing a sense of exhilaration and vigour. Gentle massage is soothing, and will often send the patient to sleep. If massage be carried to excess the nervous system becomes irritable, and exhaustion follows.

The time occupied should be regulated by the strength of the patient and other circumstances of the case. All excess should be avoided. Often much harm is done by over massage. Quality

not quantity should be the motto. From 20 to 40 minutes should suffice for the whole body, and 5 to 10 minutes is quite enough, as a rule, for a joint or a limb.

As it would be impossible to teach massage by written directions and description, so it would be impossible to give in a work like this anything more than a mere outline indicative of the diseases in which massage is found useful. Before doing this it is desirable to remind the reader that massage must not be considered as a distinct and specific mode of treating disease all comprehensive in itself and independent of other modes of treatment, but rather should be looked upon as an adjunct to other remedies.

Rheumatism and *Gout* are diseases which provide a large variety of conditions in which massage is found of great value. Combined with the thermal treatment the results are most gratifying. In chronic conditions of the joints, where there is effusion, swelling, and thickening, with consequent stiffness and often pain, massage promotes absorption, restores mobility, and lessens deformity. In myalgia, or muscular rheumatism, where the pain is frequently so severe that power of movement is lost, massage removes the pain, and restores lost function and strength to the parts.

In *paralysis* much benefit is often derived from the judicious use of massage. By it the muscles recover tone and electrical contractility, wasted limbs regain their former size, power of motion returns, and although recovery is always slow, if the treatment has not been too long delayed, more benefit may be derived from massage than from any other remedy with which we are acquainted.

In *spinal affections* massage is of great use. Especially is this the case in lateral curvature, and all conditions in which there is weakness and loss of tone in the muscular and ligamentous supports. In these cases massage may be advantageously combined with douching.

In *spinal irritation* and other forms of *neurasthenia*, we have a class of cases which yield the best of results to mild and judicious massage. That large class of cases, comprising various *neuralgiæ*, such as *sciatica*, *lumbago*, and other painful affections of the nerves, are often benefitted greatly by massage.

Insomnia may frequently be cured by massage, the patient sometimes falling asleep during the process. *Headache*, when of a congestive character, is often relieved by massage of the neck and shoulders.

Liver, Stomach, and Intestines.—Derangements of these organs are often successfully treated by massage. Especially is this the case in *constipation* of the bowels. Deep massage of the abdomen, working from the right to the left side along the course of the ascending, transverse, and descending parts of the colon, will disperse flatus, and cause the bowels to move. Systematic and regular massage increases the tone of the muscular coats of the intestines, and contributes to a more regular and healthy action of the bowels.

In *uterine* and *ovarian diseases* much can often be achieved by massage. In many forms of *heart disease* massage is useful in assisting the circulation, often reducing congestion and dropsy.

Corpulency is frequently much reduced by a proper course of massage; whilst, on the other hand, paradoxical though it may seem, cases of *extreme emaciation* often increase in weight when subjected to a course of massage.

Surgical affections provide many cases in which massage is of great use. Sprains, contusions, chronic synovitis, and contractions of muscles and tendons may be instanced as proper conditions for massage treatment.

Weir Mitchell Method.

It would ill become me to close this chapter without making a slight reference to this system of massage. Dr. Weir Mitchell, of Philadelphia, was the originator of this mode of treatment, and Dr. W. S. Playfair has been its chief English advocate. The system comprises various adjuncts to massage in the shape of rest and quiet, seclusion from friends, over-feeding, and sometimes electrical treatment. And certainly much good frequently follows this treatment, especially in those neurasthenic conditions so often met with in women, and which are so painful to the patient and at the same time are the despair of the medical attendant, who generally finds all ordinary drugs and treatment fail.

PART II.

BUXTON:

DESCRIPTION OF THE TOWN,

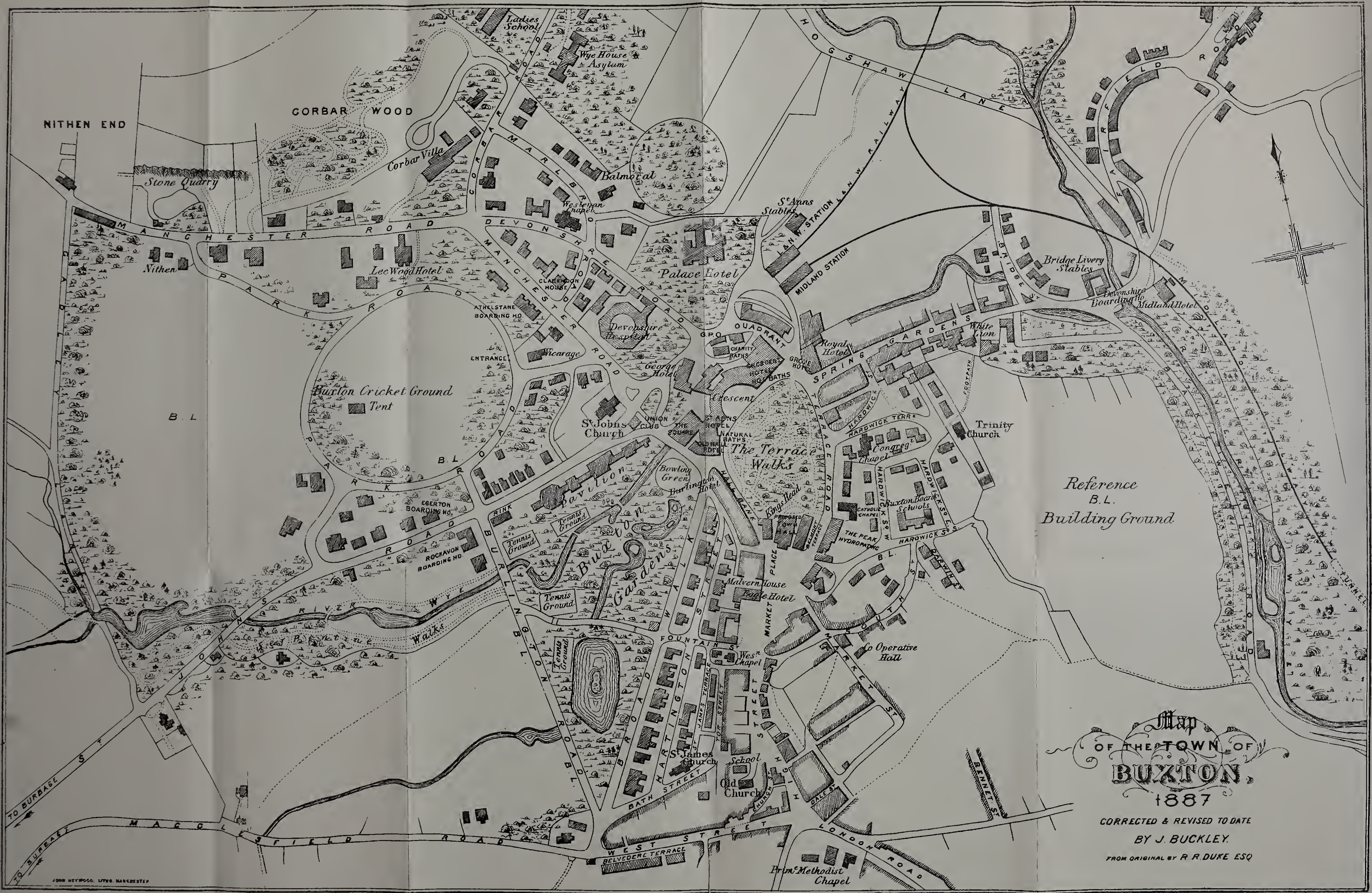
SHORT EXCURSIONS IN ITS VICINITY,

AND

ITINERARIES TO PLACES OF INTEREST IN THE

PEAK OF DERBYSHIRE.

[Reprinted from the Author's "Peakland."]


Map of the Town of Buxton
1887
Corrected & Revised to Date
By J. Buckley.
From original by R. R. Duke Esq
Nithen End
Corbar Wood
Ladies School
Wye House Asylum
Corbar Villa
Corbar Road
Marlboro Road
Balmoral
Stone Quarry
Wesleyan Chapel
Hogshaw Lane
L. & N. W. Railway
St Anns Stables
L. & N. W. Station
Midland Station
Fairfield Road
Manchester Road
Devonshire Road
Nithen
Lee Wood Hotel
Clarendon House
Palace Hotel
Park Road
Athelstane Boarding Ho.
Devonshire Hospital
G.P.O.
Quadrant
Charity Baths
Crescent Hotel
Hot Baths
Grove Hotel
Royal Hotel
Spring Gardens
White Lion
Bridge Street
Bridge Livery Stables
Devonshire Boarding Ho.
Midland Hotel
Midland Road
Vicarage
Entrance
George Hotel
Buxton Cricket Ground
Tent
Crescent
B. L.
St Johns Church
Union Club
The Square
St Anns Hotel
Natural Baths
Old Hall Hotel
The Terrace Walks
Hardwick St
Hardwick Terr.
Congreg. Chapel
Trinity Church
Footpath
Reference
B.L.
Building Ground
Bowling Green
Burlington Hotel
Hall Bank
Kings Head
Pavilion
Rink
Tennis Ground
Egerton Boarding Ho.
Buxton Gardens
Buxton Board Schools
Catholic Chapel
The Peak Hydropathic
Hardwick Sq. W.
Hardwick Sq. E.
Hardwick Sq. S.
Rockavon Boarding Ho.
River Wye
Burlington Road
Broad Walk
Malvern House
Eagle Hotel
Market Place
South St
St Johns Road
Serpentine Walks
Fountain St
Wesn Chapel
Co Operative Hall
Market St
Tunnel
Hartington Street
James Terrace
York Street
High Street
St James Church
School
Old Church
Church St
Dale St
Bennet St
Bath Street
West Street
London Road
Macclesfield Road
Belvedere Terrace
Prim. Methodist Chapel
To Burbage
To Buxton

PART II.—ITINERARIES.

CHAPTER XIV.

BUXTON IN THE PAST.

BEFORE giving a description of Buxton as it exists at the present time, my readers will probably be interested in the following quotation from an article entitled, "Buxton One Hundred Years Ago," which appears in a work recently published called "Pictures of the Peak," by Mr. Edward Bradbury, and which for literary style and artistic merit is worthy to take its place in the foremost rank of works upon Peak scenery and places of interest in Derbyshire—a work which tourists and other interested will do well to read. The article referred to draws a graphic contrast betwixt Buxton of to-day and Buxton of a century ago well worthy of its accomplished author :—

"Some places are analogous with people. They have their youth and manhood, their ripe old age and tottering decay. As with the individual, so with the town. It is a story of rise and progress, prosperity and opulence, decline and fall. Some towns, however, reverse this rule. As they grow older they become younger, and advancing years only bring with them higher spirits, brighter looks, increased powers, and more vivacious vitality.

Buxton was a sanatorium of the Roman legions when Jesus of Nazareth was preaching the Sermon on the Mount. It was a place of established reputation before the existence of some modern cities, and when great manufacturing centres, with their teeming, toiling populations, remained unreclaimed from moss and marsh and moor. Yet Buxton is younger to-day than it was when Mary Queen of Scots counted her rosary at the Old Hall, and those foppish courtiers, Leicester and Burleigh, in slashed and puffed doublets, velvet cloaks and jewelled belts, drank the waters, and strutted with swaggering gait on the bowling green. Two thousand years ago, the Spa of the Peak was in its teens. Unsightly tenements have been replaced by handsome buildings, and unsavoury alleys by spacious thoroughares. Some picturesque old edifices have been demolished—quaint, half-timbered, latticed-windowed, high-gabled "bits" of architecture, grey with age, and wrinkled with russet reminiscences—that an artist would have spared; but comfortable cottages have succeeded cave-dwellings, and tumble-down houses have been "improved off" to make way for elegant villas and imposing terraces, great hotels and halls of health. An old, grubby limestone chrysalis has been metamorphosed into the brightest of architectural butterflies. The translation has been a protracted one, for the Peak district is famous for its "fossils," and the petrifying process sometimes congeals mind as well as matter. In the reign of Beau Nash, Bath was a more fashionable residential place than Buxton is in the ninth decade of the nineteenth century, and its buildings were quite as pretentious, thanks to the genius of Wood, an architect who made artistic use of natural advantages. In the time of the Tudors, however, Bath was more celebrated for its wool than its waters; while Buxton was the Mecca of pilgrims from all parts who were attracted by the medical fame of St. Anne's Well,

and who left their crutches at the shrine in evidence of the relief they had found from their sufferings. But it is not much more than a hundred years since Buxton really emerged from an uncouth moorland village into an aristocratic watering place.

. . . . . .

"The Pump Room of a hundred years ago compares very favourably with the shabby apology for such an institution that exists to-day. The springs bubbled up in sparkling purity into glistening marble basins, and there was an absence of the vulgar public-house beer-handles that 'decorate' the counter of the present meagre apartment which is deemed good enough to receive the visitor accustomed to the superb Pump Rooms and *Kursaals* of the Continent. St. John's Church, with its *hôtel de ville* like exterior, and Turkish Bath like ceiling, was not erected until 1812. A century ago the hotels competed with the tottering Chapel of St. Anne's in offering spiritual edification to Buxton visitors. A clergyman, one the Rev. Mr. Thorpe, attended daily at the Old Hall saying grace and reading prayers. He was well paid for his pious pains. 'As a reward for his trouble, when the Cloth is removed, and he has left the Room, the Principal Gentleman at the Table goes round with a Plate to the Company, who give what they please; never Less than one shilling, and a few more a *piece*, which Amounted generally to Four Pounds.' Think of that, Churchwardens of St. John's and St. James's, when all the preaching of the most powerful pulpiteers cannot extricate your funds from debt. But it was not all sermons and soda-water at Buxton a hundred years ago. The visitors gambled as much as they did at Bath during the Regency, and the preponderance of people who subscribed for the Card

Room over those who supported the Church, gave rise to the satirical lines:—

> "The Church and Rooms the other day
> Open'd their Books for Prayer and Play;
> The Priest got *twelve*, Hoyle sixty-seven;
> How great the odds for Hell 'gainst Heaven!"

There were amusements in plenty in 1788. The Duke of Devonshire surpassed Mæcenas in the opulency of his patronage. He provided a private band at his personal cost. The Races were permanently fixed for the Wednesday and Thursday following the first Sunday after Trinity. A subscription pack of harriers were kept in the neighbourhood. The best London talent appeared at the Theatre, for the metropolitan playhouses were closed during the Buxton season. The performance commenced at six o'clock, the latest hour for *table d'hôte* being four o'clock. The Assembly Room was the scene of aristocratic dances. The White Hart sent its respectful compliments to the Angel, and asked its company to their dance after supper. Other inns exchanged mutual courtesies of this description. There were no bath-chairs. It was the age of sedan-chairs. Oil lamps in the streets made the darkness visible. Linkmen with flaring torches were the escort of ball parties. The Assembly Room was a blaze of wax candles in crystal chandeliers. Wandering about the Crescent in the moonlight, I people the eloquent place with the phantoms of the past; with crush of fashion and galaxy of beauty; with Youth and Hope and Dreams; with Avarice and Hate and Despair; with Love and Lust, Ambition and Failure; with Lady Teazle and Joseph Surface, Sir Benjamin Backbite and Lady Sneerwell, tender Maria and honest Rowley; with wigs and patches *à la Greeque*, hoops and red-heeled shoes, glistening sword-hilts and cocked hats. The sedan-chairs set

down radiant beauties with powdered hair and jewelled dresses; chaperones and dowagers, fine old "bucks" and gallant beaux with marvellous wigs, coats of Tyrian bloom, bravely embroidered waistcoats, and garder-blue-silk breeches and dangling sword. The windows send yellow shafts of light across the roadway. Music floats in the night-air. It is a stately minuet. There is a ripple of laughter in the intervals, and everybody seems to be talking to everybody else. The music starts again, and there is the *frou frou* of silk and brocade on the ballroom floor. I should like to join the dancers; but I must first go home and array myself in a full-skirted murrey-coloured coat, don a flowered waistcoat, encase my legs in breeches of sarsenet, put on silk stockings, comb my bag-wig, and further adorn my person with fine lace ruffles and a jabot. But what is the use of these vanities? The gay company upstairs have long gone home. It is only the wandering shadows of a hundred years ago that haunt the Crescent to-night."

CHAPTER XV.

DESCRIPTION OF THE TOWN.

St. Anne's Cliff, or the Terrace Walks

Is the elevated mound opposite the Crescent, beautifully laid out in terraces with trees and shrubs, winding walks and handsome vases, and which, with its delicious greensward, seats for invalids, and commanding views of the town and neighbourhood, is the most popular rendezvous in the town. The walks are quite free and open, and from their central position are a great boon to all. It is from this elevated point the best view and the best idea of the town can be obtained. Immediately in front, the roof being about level with the top of the cliff, is

The Crescent,

A grand pile of buildings erected by the late Duke of Devonshire, in 1780, at a cost of upwards of £120,000, from designs by the late John Carr, architect, of York. It has a curve of 200 feet, two wings 58 feet in length, and contains about 400 windows. The style is Doric. At the east end of the Crescent are the buildings comprising the Hot Baths, surrounded on two sides by the hot bath colonnade, which contains some handsome shops. This colonnade is directly continuous with an arcade which runs the whole length of the Crescent to

St. Anne's Well and the Natural Baths,

Which are at the western end. This covered way then turns abruptly to the right to

The Chalybeate Well,

And afterwards winds round three sides of the plain and old-fashioned pile of buildings called The Square.

The Old Hall,

Now a hotel, adjoins the natural baths. This is the house where the unfortunate Mary Queen of Scots resided, on the several occasions when she visited Buxton a prisoner in charge of the Earl of Shrewsbury.

Returning to our position on St. Anne's Cliff, and directing our eyes beyond the Crescent, a beautiful architectural panorama opens up from right to left, greatly enhanced by the effective background formed by the lofty eminence of Corbar Wood and Crag immediately behind, and Coomb's Moss and Black Edge towering away to the right. On the right are the

Railway Stations,

The termini of the London and North-Western and the Midland. Both stations, though separate, are only divided by the Station yard, and are approached either by a broad footroad from the eastern end of the Crescent or by the station road, which winds round the end of the Quadrant. The Quadrant is the short length of road leading from the corner of the Hot Baths to

The Devonshire Hospital.

This is the large octagonal building, with an immense dome, standing on the rising ground in the rear of the Crescent. It was formerly the stables of the Duke of Devonshire, but the building and grounds, having been munificiently conveyed to the charity by their noble owner, have been converted into a hospital (under the architectural direction of Mr. R. R. Duke, of Buxton) capable of accommodating 300 patients. The cost of the alterations was about £36,000, of which £24,000 was contributed by the trustees of the late Lancashire Cotton Famine Fund, in consideration of which Lancashire is given prior claim to the occupation of 150 beds. The hospital is entered from Devonshire Road, under a handsome clock tower erected as a tribute to Dr. Robertson, of Buxton. The immense area under the dome is capable of accommodating 6,000 people, and the dome is said to be the widest in the world.

The Palace Hotel

Is a very handsome building, and standing in its own extensive grounds, between the Station and Hospital, it forms a striking feature in the landscape. Immediately behind the Crescent, and facing the Hospital, is the Post Office, and after passing the Hospital on the right, as we proceed westward, we come to the entrance of the Gardens.

The Gardens and Pavilion.

These grounds were laid out by a limited company in 1870, and since that date have been several times considerably extended and improved, and are now unsurpassed by those of any similar spa in Britain. The Pavilion, Central Hall, and Large Concert Hall are constructed mainly of glass, and form a truly magnificent

pile. Being continuous one with another, they together form a long covered promenade which is plentifully adorned with trees and plants, and in cold weather is nicely warmed, forming either a pleasant lounge or an agreeable exercise ground in wet and unfavourable weather. Annexed to the Pavilion is a well-supplied reading-room. In the grounds are a capital skating rink, eighteen gravel and grass tennis lawns, a small lake for boating, and a bowling-green. The river Wye winds through the grounds, crossed by several handsome and rustic bridges. The ornamental waters are well stocked with water-fowl; the various terraces are charmingly laid out with flower beds, shrubs, and flower vases; shady seats and sheltered lounges abound on every hand; and altogether here is found the most pleasing and popular resort in Buxton. A first-class band plays daily from 11 to 1 in the gardens, and from 7 to 9 in the Concert Hall. Organ and piano-forte recitals are given in the afternoons. The band, which is under the direction of a first-class conductor, is one of the best orchestral bands in the country, and in the season always draws large and appreciative audiences to listen to its varied and excellent programmes. During the winter months this band, although reduced in numbers, plays twice a day in the Pavilion, which is well warmed, and proves a great attraction to winter visitors. The prices of admission are most reasonable, and much lower than most similar places of entertainment in other spas. Up to 5 p.m. 4d., after 5 p.m. 6d. Children half-price.

During the summer season excellent displays of fireworks and feasts of lanterns are given under the direction of Messrs. Brook, of the Crystal Palace.

New Theatre.

This is a handsome stone building, recently erected at the rear of the Pavilion. Entrance in St. John's Road.

The Old Cross,

Situated in the Market Square, is somewhat ancient, and possesses historic interest. The surroundinng square has been greatly improved by the planting of trees and laying-out of shrubberies, as also have several other parts of the town been rendered more pleasant and attractive by similar works, which were suggested by the writer in a letter on "Tree Planting," addressed to the *Buxton Advertiser* in 1878.

Hydropathic Establishments.

There are several excellent hydropathies in Buxton. These are Malvern House, The Peak Hydro and Thermal Establishment, Clarendon House, and Haddon House.

The Town Hall,

A pile of handsome buildings, consisting of public offices, assembly-rooms, free library and reading-room, &c., is on the site of the old Market Hall, which was burned down. This building forms one of the most striking architectural features in the town. In addition to its frontage to the Square it has a handsome front on St. Anne's Cliff, overlooking the Crescent. On the south front is a fine clock tower, erected to the memory of the late Lord Frederick Cavendish.

The Union Club

Is in the Shrubbery, adjoining the main entrance to the Gardens, and is open to gentlemen visitors, introduced by members.

The erection of a

New Pump-room

Is contemplated in the Crescent, to meet a want which is keenly felt by the increasing number of visitors to Buxton.

Amusements and Entertainments.

As already mentioned, lawn tennis, boating, bowls, skating rink, theatre, &c., are provided in the Gardens, besides the daily concerts and other entertainments in the Pavilion. During the season frequent tennis tournaments are held in the same grounds. Cricket finds an excellent home in the cricket field situated in the Park, and in winter football is played extensively. The surrounding moors provide excellent grouse-shooting, and fishing can be obtained in the river Wye amid scenery of the loveliest character. Tickets are obtained at Mr. Banks's, Spring Gardens. The Buxton Horse Show Society holds its annual show in August, when an excellent gathering takes place. A Horticultural Show and a Dog and Poultry Show are also held annually.

The Buxton Well Dressing.

This festival is held annually, generally in June, and is the occasion of much festivity. Great numbers visit the town from the adjoining counties. The Fountain in Higher Buxton and the St. Ann's Well are beautifully and artistically decorated, various devices, pictorial and verbal, being cleverly worked by means of the petals of flowers of various colours. The custom is an old one, and dates back to the time when Buxtonians were dependent for their water supply, more or less, upon the bounty of the lord of the manor.

The Town's Authority

Is under the Local Government Board. The Buxton Local Board of Health consists of twelve members elected by the ratepayers. The gasworks and sewage works in Ashwood Dale and the waterworks all belong to the town. The water reservoirs are situated at Lightwood, near Coomb's Moss. There is also a small reservoir at the foot of Axe-Edge, and an additional source of supply at Cold Springs, on the Manchester Road. All these supplies come from the millstone grit formation, and have no connection with the limestone.

Circulating Libraries.

These are Bates's, Robins and Co.'s, and Sutton's Hot Bath Colonnade ; and Hallifield's, The Grove.

Newspapers.

The *Buxton Herald*, published on Wednesdays ; the *Buxton Advertiser*, on Saturdays ; the *High Peak News*, on Fridays ; the *Buxton Chronicle*, on Saturdays ; and the *Buxton Visitor*, monthly.

Reading-rooms.

The principal reading-rooms are in connection with the Pavilion and The Free Library. Here the leading London and provincial papers are provided ; also weeklies, monthlies, and quarterlies. Tickets of admission are extra to the admission to the Gardens—day, 2d. ; week, 9d. ; month, 2s. 6d. ; year, 7s. There is also a good reading-room at the Liberal Club, in Spring Gardens. Strangers are admitted to the room on the introduction of a member of the club. A reading-room is provided for working men in the old Endowed Schoolroom, Higher Buxton.

Literary and Philosophical Society.

This Society was formed three years ago. Its objects are the promotion of science, literature, and art, by the delivery of lectures, conducting of geological and archæological excursions, &c.

Hunting.

The High Peak Harriers and the Buxton and Peak Forest Hunt meet several times a week during the winter, the district around Buxton affording excellent facilities for this sport.

CHAPTER XVI.

PLACES OF WORSHIP.

St. John's Church, Lower Buxton, was opened in 1812, and owes its origin to the munificence of the late Duke of Devonshire. It is of the Tuscan order of architecture. There are in this church a handsome pulpit of alabaster and marble, erected to the memory of the late Bishop Spencer; also a fine reredos and interesting altar picture. The font is of marble. Services on Sunday at 11 a.m., and 3 and 6-30 p.m. Daily morning prayer at 10, and evening prayer at 5, during the season. All the seats in the church are free, except a few with doors, comprising the south-west block.

St. James's Church, Higher Buxton, is a handsome Gothic structure, designed by Mr. Taylor, of Manchester, containing sittings for more than 700 persons. Choral service on Sundays at 11 a.m. and 7 p.m. All the sittings in this church are free and unappropriated.

Trinity Church, Hardwick Terrace, is a neat little Gothic structure, containing sittings for about 500 persons. Sittings all free. Service at 11 a.m. and 6-30 p.m. on Sundays, and on Wednesday at 7.

Congregational Church, Hardwick Street.—A handsome Gothic building, with seats for about 700 persons. Service on Sundays at 10-30 a.m. and 6-30 p.m.

Wesley Chapel, Higher Buxton, in the Gothic style of architecture, contains sittings for about 600 persons. Services on Sundays at 10-30 a.m. and 6-30 p.m.

Devonshire Park Chapel (Wesleyan) is a handsome Gothic building; will hold more than 700 persons. Service on Sundays at 10-30 a.m. and 6-30 p.m.

Presbyterian Church of England.—Services in the Town Hall during the season. Sundays, 10-45 a.m. and 6-30 p.m. Ministers by appointment of the Presbytery of Manchester.

The Primitive Methodist Chapel, London Road, is a neat Gothic building, to which is attached a commodious Sunday School, also in the Gothic style of architecture. Service every Sunday at 10-30 a.m. and 6-30 p.m.

Unitarian Chapel, Hartington Street, a Gothic structure. Services every Sunday at 11 a.m. and 6-30 p.m. All seats free.

St. Ann's Catholic Church, Terrace Road, is a small and neat Gothic building. Mass on Sundays at 10-30 in the morning; evening service at 6-30.

Catholic Apostolic Church.—A small temporary building in Hardwick Square, South. 10-30 a.m. and 6-30 p.m.

Fairfield Church.—Service on Sundays at 11-0 a.m., 3 p.m., 6-30 p.m.

Burbage Church.—This is a small but pretty church, of Norman architecture, with a good peal of bells. Service on Sundays at 11-0 in the morning, and 6-30 in the evening.

CHAPTER XVII.

REGULATIONS AS TO HACKNEY CARRIAGES AND BATH-CHAIRS.

Fares charged for the hire of carriages and bath-chairs licensed by the Board, by distance and by time respectively, exclusive of toll-gates. The persons engaging the hackney carriage or bath-chair shall have the option of declaring when engaging the same whether the fare shall be by time or distance, and if the option is not declared the fare shall be considered as one by distance.

FARES BY TIME—CARRIAGES.

	s.	d.
Drawn by two horses, for first hour or less	4	0
Every succeeding quarter of an hour	1	0
Carriages drawn by one horse, for first hour or less	3	0
Every succeeding quarter of an hour	0	9

FARES BY TIME—BATH-CHAIRS.

For the first hour or less	1	0
Between 11 a.m. and 1 p.m. the fare for one hour or less shall be	1	6
Every succeeding quarter of an hour	0	3
If succeeding an hour's hiring, between the hours of 11 a.m. and 1 p.m	0	4

FARES BY DISTANCE—CARRIAGES.

Drawn by two horses, 1 mile or less	1	6
Every subsequent half-mile	0	9
If drawn by one horse, for first mile or less	1	0
Every subsequent half-mile	0	6

Where the fares are by distance, the hirer shall be entitled to return the whole, or, at his option, any part of the distance, paying for such return at the rate of one-half the original fare, and shall be entitled to one quarter of an hour's waiting without further charge.

Carriages to or from the Railway Stations, to or from any place within one mile; one or two passengers, 1s.; three passengers, 1s. 6d.; four passengers, 2s.

(All houses in the Buxton District, except such as are beyond the Post Office, Burbage, beyond Wye Head, on Macclesfield Old Road, or in Green Lane, are within the mile distance.)

To or from any part of Buxton District, beyond the mile distances, 6d. extra.

FARES BY DISTANCE—BATH-CHAIRS.

To or from Places of Worship, the Baths, Pavilion, or Stands; to or from any house or place within the following limits: The Wesleyan Chapel, Higher Buxton; Park Entrance, St. John's Road; Broad Walk or Hartington Street; Athelstane Terrace, Manchester Road; Devonshire Park Wesleyan Chapel; Trinity Church, Hardwick Terrace; Midland Railway Bridge, Fairfield Road, 8d.—To or from any other part of the Buxton District; Christ Church, Burbage; or St. Peter's Church, Fairfield, 1s.

Fares by distance, as regards bath-chairs, apply only to fares direct to or from the places before mentioned.

STANDS.

Carriage Stands: Market Place, Terrace Road, Station Road, Spring Gardens (opposite the White Lion), Bridge Street, and Pavilion.

Bath-chair Stands: Hot Baths, Natural Baths, Market Place and Spring Gardens. Bath-chairs are not allowed to be drawn on the footpath.

CHAPTER XVIII.

FAVOURITE WALKS.

THE PARK—CORBAR WOOD AND CRAG—NITHEN END AND COLD SPRINGS—LIGHTWOOD RESERVOIR—FAIRFIELD—ASHWOOD DALE—LOVER'S LEAP—DUKE'S DRIVE—SHEFBROOK DELL—HARPUR HILL—SOLOMON'S TEMPLE—DIAMOND HILL—POOLE'S CAVERN—GRIN LIMEWORKS—BURBAGE.

The Park

Is a piece of sloping ground over a hundred acres in extent, which lies at the back of St. John's Church. There is a circular drive around the Park, which is very suitable for horse exercise, and the Buxton Cricket Club occupy the central portion of the land. The Park is well laid-out, and contains some handsome dwelling-houses.

Corbar Hill and Crag.

This is a lofty wooded eminence, standing north of the town, and easily reached from the Manchester Road or from Corbar Lane. In the wood is an old stone quarry, from which the stone was obtained to build the Crescent. The wood is laid out with winding walks and rustic seats, sheltered and overhung with branching trees. The profusion of rhododendrons, foxgloves, flowering currant trees, ferns, and mosses, together with the cool and shady walks, make this a favourite resort for visitors. Pursuing

the winding paths to the highest point of the wood, we come to a small field, at the further side of which is the Crag. Crossing this ground and ascending the Crag a view of extreme beauty is obtained. The wood and grounds are open to the public without charge.

Nithen End and Cold Springs

Are on the Manchester Road, where are two or three gritstone quarries and several houses, while a little higher up is Cold Springs. From this latter place a capital supply of excellent drinking water is obtained to supplement the other sources of the town's supply. The walk up this road, which is the main road to Manchester, is a very favourite one. The ascent is easy, and from the road splendid views are obtained of the town and surrounding country.

Lightwood Reservoir

Is the chief source of the Buxton water supply, and is situated on Coomb's Moss, which lies between Corbar Hill and Black Edge. The walk from the town is either by way of Corbar Lane or Hogshaw Lane. Mosses and wild flowers abound, the scenery is wild, and the view extended.

Fairfield,

To the east of Buxton, is an adjoining village, and is conspicuous by its elevated position and its square church tower. Fairfield Road leads up from the further end of Spring Gardens, and passes under the Midland Railway bridge. The houses on both sides of the road are continuous, and therefore practically unite Fairfield to Buxton. There are here an old-fashioned church and burial ground and a neat little Wesleyan Chapel. There are

also Sunday and week-day schools. Fairfield Common is a large open tract of land which was once used as a racecourse, and is now frequently chosen for the encampment of militia and volunteers. This common is an excellent place for horse riding ; and its healthy and invigorating breezes, together with its remarkable facilities for youthful exercise and recreation, render Fairfield a most desirable place for delicate children. Recently golf tournaments have been revived on this common. The common is the site of an old Roman racecourse, and was for many years used for the Buxton races, now abandoned. The lodging accommodation is excellent and the charges very reasonable.

Ashwood Dale

Commences at the lower end of Spring Gardens. The road down the dale leads to Bakewell and Chatsworth. The dale extends about two miles, and is traversed all the way by the river Wye and the Midland Railway. The scenery along this road is one of surpassing beauty. Perpendicular rocks rise on either side in endless variety of form and size—some bare and sombre, others clad with ivy, lichens, ferns, shrubs, and wild flowers, and the whole enriched by a thick undergrowth, from which spring up plantations of firs and other trees. About a mile along this road, on the right-hand side, is

The Lover's Leap,

A lofty, perpendicular rock, which forms one of the corners of a beautiful gorge, down which a pure stream of water runs over a rocky bed into the adjoining river. Here ferns and wild flowers grow in the clefts of the rocks in great profusion, many of them of rare interest to the botanist. There are several legends attached to the Lover's Leap, but probably all are alike mythical. Leaving the road opposite the gasworks, just before

we come to the foot of Lover's Leap, we take the road which inclines to the right, and rises to the summit of the Leap, and here a fine but limited view of the dale is obtained. This road, which is called

THE DUKE'S DRIVE,

Then turns abruptly to the right for about half a mile along one side of

SHERBROOK DELL TO SHERBROOK,

A charming spot, where four road-ends meet, and taking the one to the right, London Road, we are brought back into the higher part of Buxton.

HARPUR HILL

Is about a mile and a half from Buxton. It is approached by the London Road until Sherbrook is reached, when the visitor takes the road bearing to the right, and ascending the hill he arrives at the Parkes Inn. Here are some very extensive lime quarries and a number of workmen's cottages. By continuing the road to the left the visitor will arrive at Brierlow Bar, about three miles from Buxton, on the main London Road, by which he may return to the town ; or taking the turn to the right, opposite to the Parkes Inn, he can return home along the back of "Solomon's Temple," by the foot of Axe Edge, Ladmanlow Bar, and Burbage.

POOLE'S CAVERN.

This remarkable natural curiosity is visited easily by taking the road (Green Lane) leading to it from the end of West Street, near the Cheshire Cheese, or by the footpath from the end of The Broad Walk across the field, past the Buxton College. It is one of the chief caverns of the limestone formation, rich in stalactites and stalagmites, and well worth a visit. The name of Poole is derived from a robber-outlaw who is said to have made

the cavern his retreat. The cavern was doubtless inhabited by the Romans, as is evidenced by many articles which have been dug up from the floor. The small museum in the gardens outside the cavern contains many interesting curiosities. The cave itself is entered through a low archway in the side of the cliff. It is over 770 yards long, and the roof is lofty and of imposing proportions. As it is illuminated by a large number of gas jets, the scene presented to the eye is one singularly marvellous and striking. Huge masses of rock are piled about in the wildest profusion; stalactites and stalagmites depend from the roof or grow out from the floor or walls at every point, their crystalline surfaces sparkling like precious gems as the light is reflected from them. Some of the stalactitic formations present the most extraordinary resemblance to the objects whose names they bear, such as "The Font," "The Flitch of Bacon," "The Rhinoceros," "The Beehive," &c. At about 200 yards from the entrance a large stalactite depends from the roof and bears the designation of "Mary Queen of Scots' Pillar," from the story told of that queen having visited the cavern as far as that point. Running through the cavern is a small stream, one of the heads of the river Wye. A good footpath traverses the cave, which renders it easy of exploration even for Bath-chairs and those who may be lame.

Solomon's Temple

Is the lofty green hill above Poole's Cavern, and is easily visited by ascending the footpath which starts near the cave and passes up through the plantation. On the summit there is a large heap of stones which was erected by members of the Ordnance Survey, who used this hill as one of their stations. From here one of the best views of Buxton is obtained, and the prospect in all directions is truly magnificent. At the back of the plantation are

seen the GRIN LIME WORKS and quarries. Lying between the Temple and Harpur Hill is DIAMOND HILL, where, after a fall of rain, "Buxton Diamonds," consisting of fine crystals of quartz, may be picked up from amongst the loose gravel.

BURBAGE

Is a pretty village adjoining Buxton on the Macclesfield Road, nearly a mile distant, and approached either by the road from West Street or from St. John's Road. It is chiefly inhabited by those engaged at the limeworks. There are a pretty little church, a graveyard, schools, and a Wesleyan Chapel in the village.

CHAPTER XIX.

EXCURSIONS—SECTION I.

AXE-EDGE—CAT AND FIDDLE—FLASH—LUDCHURCH—THE ROCHES—LEEK.

Axe-Edge (2 miles)

Is over 1,800 feet above the level of the sea. It is an extensive tract of elevated moorland, which commands wide and varied views of the surrounding country. It is visited by way of Burbage, either ascending it from Leek Road, or from the Macclesfield Road on the way to the Cat and Fiddle. From this hill arise five rivers, viz., the Dove, the Manifold, the Wye, the Dane, and the Goyt; the three former find their way to the Humber, and thence to the German Ocean, and the two latter join the Mersey and thus enter the Irish Sea. On the extreme summit of Axe-Edge there is a cairn erected by the Ordnance surveyors.

The Cat and Fiddle

Is about five miles from Buxton, on the main road to Macclesfield. It is a lonely roadside inn much resorted to by visitors from Buxton on account of the grand moorland scenery and splendid mountain air which the drive affords. The inn itself is situated just beyond the border, in Cheshire, and is the highest public-

house in England. It can be easily visited at the same time as Axe-Edge, either by walking, by hired carriage, or by one of the numerous stage conveyances that visit it daily.

Flash (5 miles),

On the road to Leek, is an old-fashioned village in Staffordshire. It is from this place that the name "flash" coin or note is said to be derived, on account of its having once been the resort of a gang of coiners. Passing through this village, and descending the road to the left, the excursionist can visit

Ludchurch (9 miles).

This is a romantic spot in Staffordshire. The scenery is bold, rugged, and impressive, and withal of enchanting beauty. Putting up at the Manor Farm, where tea and plain refreshments can be obtained, tickets for viewing are there procured, and then visitors proceed on foot through a charming valley and up the wooded heights on the left, to the cave or chasm. This is a deep, natural rent in the mountain, into which the visitor descends by a rugged path and rocky steps. Here Robin Hood and Friar Tuck are said to have frequently made safe their retreat, and, truly, no place could be better calculated for the hiding of outlaws or others "in the good old times." It is also said that some of the Lollards, or followers of Wycliffe, held secret religious services here during the persecutions in the reign of Henry V. The place is called after one of the early preachers of the Reformation, named Walter Lud-auk.

The Roches (7 miles)

Are some remarkable rocks close to the Leek Road, which are well worth seeing. The drive is wild and picturesque.

Leek (12 miles)

Is an interesting little town in Staffordshire given up to the silk trade. There is a fine old church in the town, in the tower of which may be seen a specimen of the old "ducking stool." There are also remains of an ancient abbey. The town is well worth a visit, and the drive through the moorland scenery past the Roches is one of rare interest. Having driven to Leek, the tourist can thence visit by train the Staffordshire Potteries, only ten miles distant; Rudyard Lake, two miles distant; or Alton Towers, ten miles distant.

EXCURSIONS—SECTION II.

HOLLINSCLOUGH—LONGNOR—EARL STERNDALE—CHELMORTON —ARBOR LOW—DOVE DALE—ASHBOURNE—ILAM.

Hollinsclough (5 miles)

Can be visited at the same time as Longnor, by following the London Road as far as Brierlow, then turning up the hill to the right and passing under Hindlow bridge of the High Peak Railway. Here is attained the highest point of the road, and the beautiful hills of Hollinsclough are seen at some distance on the right. Descending the valley to Glutton Bridge, the visitor turns through a gate on the right and soon finds himself at the village, which lies nestled amid some of the choicest scenery in the district.

Longnor (6 miles).

If the traveller, instead of turning off the road for Hollinsclough, goes forward, crossing the river Dove, and ascends the steep hill called Longnor Edge, he speedily arrives at Longnor, a small market town with a plain old church, and some primitive-looking houses. Driving through the village he may return to Buxton by way of

Earl Sterndale (5 miles),

Through scenery of the most charming character. The beautiful valley, crossed twice in this circular tour, is the beginning of the valley of the Dove, which extends to Dove Dale.

Chelmorton (5 miles)

Is an old-fashioned village situated in a valley at the foot of a high hill called Chelmorton Low. On this hill there are two large cairns or barrows of stone, in which, when opened some years ago, interesting relics were found. The church is very ancient, bearing the date A.D. 1111, and is said to stand on higher ground than any other church in England. The road to Chelmorton branches off from the London Road at Brierlow, nearly opposite to the road which leads to Longnor.

Arbor Low (9 miles)

Is of considerable interest archæologically, on account of some Druidical remains which are to be seen there, consisting of a circle of huge stones similar to Stonehenge, on Salisbury Plain. The stones are about thirty in number, and surrounding the circle is a deep ditch, outside of which there is a mound or vallum. The diameter of the circle is about fifty yards, and that of the ditch itself five yards, whilst the height of the mound is nearly six yards. There are two entrances to the sacred circle, opening exactly north and south. The best way to visit these interesting ruins is to proceed along the Ashbourne Road as far as the eighth milestone, and then take the road on the left for about half a mile, when the mound will be discovered, two fields from the road on the right.

As the tourist views these remains his mind is carried back over past centuries, and he is filled with strange feelings of awe, mingled with gratitude that his lot has fallen in happier times; and he can enter into the spirit which animated the good William Howitt when he wrote :—

> "And oft, as on some point which lies
> In the deep hush of earth and skies,
> In twilight silence and alone,
> I've sate upon the Druid-stone;

The visions of those distant times,
Their barbarous manners, creeds, and crimes,
Have come, joy's brightest thrill to raise,
For life's blest boon in happier days."

Dove Dale (18 miles).

No excursion from Buxton is of greater interest than this. Associated with the names of Izaak Walton and Charles Cotton —names dear to all anglers—Dove Dale possesses charms of scenery not excelled elsewhere in Britain. The portion of the Dale usually visited is about three miles in length, and is narrow, deep, and devious. Traversing this rocky gorge is the beautiful river Dove, gliding smoothly along, with musical and enchanting murmurs. On either side the defile rise high rocky cliffs and pinnacles, which ever and anon nearly meet overhead and close in the river. Some of these rocks assume the form of isolated crags or columns, which have received various fanciful names, such as Pickering Tor, The Twelve Apostles, Reynard's Hall, Tissington Spires, and Dove Holes. The charming variety of scenery, the wonderful diversity of form and outline, and the exquisite colouring of the vegetation produce a grandeur of effect which defies description.

Ashbourne (20 miles),

Near to Dove Dale, is a small market town, situated in the beautiful valley of the river Dove. It possesses a large church of considerable antiquity. The building, which is in the form of a cross, is very handsome, and is surmounted by a fine lofty spire, rising to a height of 212 feet. Inside the church may be seen many ancient and curious tombs and tablets, amongst them an exquisite white marble monument, erected to the memory

of Penelope Boothby. The bells of the church are very fine in tone, and are said to have inspired the poet Moore with his exquisite verses, "Those Evening Bells."

Ilam. (20 miles.)

This is a pretty little village four miles from Ashbourne, and near the south end of Dovedale. The village and its church are of considerable antiquity, and are remarkable for their beauty. The Hall is a very fine mansion in the Tudor style of architecture. It contains many choice pictures and articles of *vertu*. In the village there is a beautiful Gothic cross, connected with which is a drinking well, the cross bearing on one of its panels the following lines, in memory of Mrs. Watts Russell :—

"Free for all these crystal waters flow,
Her gentle eyes would weep for others' woe;
Dried is that fount; but long may this endure
To be a Well of Comfort to the Poor."

EXCURSIONS—SECTION III.

CHEE DALE—CHEE TOR—MILLER'S DALE—MONSAL DALE AND CRESSBROOK DALE—TIDESWELL—TADDINGTON.

Chee Dale and Chee Tor (5 miles)

Are best visited by either walking or driving through Ashwood Dale, along the Bakewell Road, past Lover's Leap, as far as the foot of Topley Pike; then leaving the main road and taking the path to the left, and following its course along the river side to Miller's Dale. The visitor can return by train to Buxton; or he can take train from Buxton to Miller's Dale, and walk the whole way back, a distance of about seven miles. No excursion will more amply repay the pedestrian than this. The walk along this portion of the course of the Wye is full of the grandest and most picturesque scenery. High rocky cliffs, overhanging crags, wild but beautiful foliage, yawning chasms, and rushing torrents make up a scene of rare sublimity. At the point in the river where it is joined by a musical brook on the left is situated Chee Tor, a limestone crag, which rises almost perpendicularly from the river to a height of 300 feet. The sight of this towering rock, with its weather-beaten face here and there indented by deep and gaping fissures, and clothed at various points with ferns and wild flowers, is one of impressive grandeur. And the river, which is here pent up between high walls of rock, rushes on its course in angry and noisy tumult, heightening the soul-inspiring effect.

Miller's Dale (6 miles)

Is a convenient centre from which the tourist can visit Chee Tor, Cressbrook Dale, Monsal Dale, Tideswell, Taddington, and other places of interest in the neighbourhood. The station is an important junction on the Midland Railway.

Monsal Dale and Cressbrook Dale (8 miles)

Are two of the finest dales in Derbyshire. Nothing could exceed in quiet pastoral loveliness the scenes here presented. The effects produced by hill and dale, and rock and river, together with the richness of the wild vegetation, are of the most pleasing character ; and no visitor to the district should miss this excursion. It may be easily made by train to Miller's Dale, and walking thence to Monsal Dale, from which station one can return by train direct to Buxton. Cressbrook Dale is the scene of "The Miner's Daughter," by Charles Dickens.

Tideswell (8 miles)

Is a small old town, about two and a half miles from Miller's Dale Station, deriving its name from an ebbing and flowing well which once existed there.

The tourist should not miss visiting the church, which has been styled "The Cathedral of the Peak," on account of its large proportions and rich architecture. It is Gothic in style, and was built in the 14th century. It contains some ancient tombs and brasses of great interest. There is here an old grammar school founded by Robert Pursglove, who was Bishop of Hull in the reign of Elizabeth, and to the memory of whom there is a fine monument erected in the church.

TADDINGTON (6 miles),

On the road to Chatsworth, makes a pleasant drive from Buxton. The interesting old church and quaint cottages compose an idyllic picture for the landscape painter. A piece of local information which is often gravely furnished to the visitor is to the effect that "only blind, deaf, and dumb persons, and those who do not live in the parish, are buried in the churchyard."

EXCURSIONS—SECTION IV.

ASHFORD — BAKEWELL — HADDON HALL — ROWSLEY — CHATSWORTH—EDENSOR—ROWTOR ROCKS—WINSTER — EYAM—DARLEY DALE—MATLOCK.

Ashford (10 miles).

This pretty village is passed through in driving to Chatsworth. There are here some marble works where the black marble, obtained from neighbouring quarries, is cut and polished.

Bakewell (12 miles).

Two miles further on the road to Chatsworth is a small market town of great antiquity. It was one of the bathing stations of the Romans. The name is derived from the Saxon Baddecanwell. The position and surroundings of Bakewell are of peculiar interest and beauty, and the river Wye, which has here attained a moderate width, is much frequented by anglers.

The church occupies a commanding position, overlooking the town. From the churchyard an exquisite view is obtained of the valley, through which the river meanders in its erratic serpentine course. Here also the distant towers of Haddon Hal are seen, and add to the many charms of the beautiful landscape.

The church, which has been recently restored, is full of historic interest, and contains many ancient tombs and brasses, including the tombs of the Vernon (King of the Peak and Lord of Haddon) family, as also of the Manners family.

Haddon Hall (14 miles),

About two miles beyond Bakewell, on the road to Rowsley, is one of the finest old baronial residences now left in England. The hall is in an excellent state of preservation, and its position, surrounded by a grand old park, well wooded, and through which the river Wye runs, is exceedingly fine. The estates are now owned by the Duke of Rutland, having passed to the Manners family by the marriage of Dorothy Vernon, the daughter of its ancient owner, who was styled "the King of the Peak," to Sir John Manners.

Rowsley (17 miles).

This charming village, near to Chatsworth, has always been a favourite resort of artists and anglers, and amongst those who have at different times made it their head-quarters may be mentioned the names of such celebrities as Cattermole, Oakley, Nash, Stansfield, and Landseer. The Peacock is a remarkably fine specimen of an ancient hostelry.

Chatsworth (15 miles),

Which has been justly styled "The Palace of the Peak," is the princely seat of the Duke of Devonshire. It is not intended to dwell on the beauties and attractions of this truly magnificent house and park, nor, indeed, is it necessary, as their fame have spread wherever the English language is spoken. The nearest station is Rowsley, where omnibuses and carriages meet the trains and convey visitors to the entrance-gates. The principal objects to be seen are the park, with its tall ancestral trees, the gardens, the conservatory, designed by Sir Joseph Paxton, and the fountains; the interior of the house, with its invaluable treasures of art, the state rooms, the library, the chapel, the orangery, and the

statuary. Haddon or Chatsworth can be visited in the same day by the tourist driving from Buxton or taking train to Bakewell or Rowsley.

Edensor (14 miles).

This "model village," which was planned by the late Sir Joseph Paxton, is situated just within the bounds of Chatsworth Park. The churchyard is mainly interesting as the plain and unpretentious burial place of the Cavendishes. Here is the grave of the late Lord Frederick Cavendish, who was so cruelly murdered in Phœnix Park, Dublin, in 1882.

Rowtor Rocks.

This is a remarkable assemblage of rocks, on the road from Rowsley to Winster, extending between 70 and 80 yards in length and rising to the height of about 40 or 50 yards. Some of the rocks, although of great size, may be easily moved to and fro, as, indeed, the name is meant to indicate.

Winster

Can be easily reached by driving from Rowsley or Bakewell. It contains some interesting old buildings (amongst them Winster Hall), and is well worth a visit.

Eyam (12 miles)

Is a pretty village, beautiful for situation, and ever memorable on account of its desolation by the plague of 1665, when five-sixths of the population was carried off by the scourge. The Christian fortitude of the people and the heroic devotion of their

pastor (Mr. Mompesson) form a most touching feature in the sad tale of "The Desolation of Eyam," by Mary and William Howitt—

"And many are the pilgrim feet which tread
Its rocky steeps which thither yearly go ;
Yet, less by love of nature's wonders led,
Than by the memory of a mighty woe,
Which smote, like blasting thunder, long ago,
The peopled hills. There stands a sacred tomb—
Where tears have rained, nor yet shall cease to flow—
Recording days of death's sublimest gloom,
Mompesson's power and pain—his beauteous Catherine's doom."

Darley Dale (17 miles)

Can be visited by train at the same time as Matlock. The scenery is beautiful in the extreme. The church is very quaint and interesting, and in the churchyard there is a famous old yew tree said to measure 33 feet round the stem and to be many centuries old.

Matlock (22 miles).

The drive to Matlock and back by the four-in-hand coach, which runs from Buxton in summer, is most charming. It can, of course, always be visited by train, and a day spent there will well repay the tourist.

EXCURSIONS—SECTION V.

THE EBBING AND FLOWING WELL—ELDON HOLE—THE WINNATS —BLUE JOHN MINE—SPEEDWELL MINE — CASTLETON— PEVEREL CASTLE—PEAK CAVERN.

The Ebbing and Flowing Well (5 miles)

Is found on the right-hand side of the road to Castleton, shortly after leaving Barmoor Clough. It is a curious spring, which ebbs and flows at intervals.

Eldon Hole.

This remarkable natural wonder is a "perpendicular rift in the limestone," once thought to be a kind of bottomless pit. It lies at some distance from the Castleton road, on the right-hand side, after leaving Perry Foot.

The Winnats, or Wind Gates,

Is a grand rocky pass which leads down to Castleton from Mam Tor, or Shivering Mountain. The tourist may leave his carriage at this point and send it by road to Castleton, whilst he walks through the Winnats. The pass lies between massive towering rocks, and is a walk of extreme grandeur and loneliness.

Blue John Mine

Lies close to the road, near the entrance to the Winnats. It is the mine from which the beautiful spar which bears the name of

"Blue John" is obtained, and is easily visited. The cavernous recesses are of extreme beauty, forming a veritable underground palace. One of the chambers is over 160 feet in height and 60 feet in width.

Speedwell Mine

Is the next cavern we reach, and is close to Castleton. Part of it is artificial, consisting of a flight of steps, from the bottom of which a tunnel has been driven for a distance of 650 yards. The extreme end of the tunnel opens into a huge natural cavern of vast height, and with a "bottomless pit," into which a roaring torrent of water ceaselessly falls.

Castleton (12 miles).

Besides being the centre of so much interest in the way of caverns, this charming little town has been rendered classical by the pen of Sir Walter Scott, in his "Peveril of the Peak."

Peveril Castle

Is an interesting ruin of great antiquity. Some antiquarians believe it to be an old Norman structure, built by William Peveril, who was a natural son of William the Conqueror. Its towering rocky position, overlooking the town, must have rendered it an almost impregnable fortress.

Peak Cavern

Is the largest natural cavern in England. The entrance arch is 42 feet high, 122 feet wide, and 300 feet in length. The whole cavern extends by a series of chambers for 750 yards beneath the mountain. Inside there is a subterranean lake, which adds considerably to the weirdness of the scene.

EXCURSIONS—SECTION VI.

ERRWOOD HALL—WHALEY BRIDGE—CHAPEL-EN-LE-FRITH—DISLEY—LYME HALL—ALTON TOWERS.

Errwood (4 miles by foot, 8 miles by carriage road)

Is the seat of the late Mr. Grimshaw. It is visited on foot by taking the steep road to the left, which leads from the top of the Long Hill, on the Manchester Road, down into the valley of the river Goyt, or, by driving along the main road, for two miles further, and then entering the lodge gates and winding drive up the valley to the hall. This is one of the most delightful excursions in the district. The scenery by the river is pretty in the extreme, and the grand show of rhododendrons in the early summer is equal to anything of the kind to be seen in this country. If the visitor is walking, he can follow the path by the river, and return by the old Cat and Fiddle road, and on through Burbage to Buxton.

Whaley Bridge (8 miles)

Is a small town on the road to Manchester. The drive up the Long Hill, past Fernilee to Whaley Bridge, then turning to the right and following the road to Chapel-en-le-Frith and back to Buxton, is a very pleasant circular trip of about 16 miles, affording a constant change of scenery.

Chapel-en-le-Frith (6 miles)

Is an ancient little town situated in a valley of great beauty. The best road is by Fairfield and Dove Holes.

Disley and Lyme Hall (13 miles).

Disley is a charming village on the road to Stockport and Manchester, possessing a pretty church and some beautiful woodland scenery. Close by are Lyme Hall and its grand old park, which are open to visitors on certain days in the summer season. This estate belongs to William John Legh, Esq., whose ancestors have held it since about 1346. In the hall, which is a quadrangular building, are to be seen some very fine carvings and pictures. Tickets can be obtained at the Ram's Head Hotel, Disley.

Alton Towers (22 miles)

Is the family seat of the Earl of Shrewsbury. It may be visited from Buxton either by driving through Leek or by train (London and North-Western Railway), *via* Middlewood, Macclesfield, and Leek. The hall and gardens are of exquisite beauty and interest, the grounds, in the opinion of some, being equal to those of Chatsworth.

BUXTON POSTAL ARRANGEMENTS

HEAD OFFICE.....DEVONSHIRE CIRCUS.

RECEIPT OF MAILS AND DELIVERY OF LETTERS.

MAILS FROM	Delivered by Letter Carrier.
London and all parts, except Ireland	7-0 a.m.
Irish Night Mail; 1st Day Mail from London and all parts	11-0 a.m.
London and all parts (except Ireland): 2nd Day Mail	4-0 p.m.
Irish Day Mail, London, Manchester, and all parts (in central district only)..	7-30 p.m.

DESPATCH OF MAILS.

Showing the time that the Box is closed for Ordinary Postage and One Extra Halfpenny Stamp.

Ordinary Postage. MAILS TO	With 1 Extra ½d. stamp.
5-0 a.m.—Longnor, Quarnford, King Sterndale, Miller's Dale, Wormhill, Taddington, Chelmorton, Earl Sterndale, &c.	No extra fee.
8-30 a.m.—Ireland (Day Mail)	No extra fee.
10-0 a.m.—Derby, Chesterfield, Sheffield, Birmingham, Nottingham, Leicester, Newark, &c.	No extra fee.
10-0 a.m.—London, Manchester, Liverpool, &c., 1st Day Mail	Extra stamp 10-10 a.m.
1-0 p.m.—London (Suburban Districts excepted), 2nd Day Mail, Southern Counties (Night Mail), Bakewell, Matlock, Derby, Birmingham, &c.	Extra stamp 1-10 p.m.
1-0 p.m.—Manchester, Stockport, Liverpool, and East, West, and South of England (Night Mail)	Extra stamp 1-10 p.m.
3-0 p.m.—Manchester and the Lancashire Towns	No extra fee.
6-30 p.m.—Bakewell direct (Night Mail), Stockport and the North	No extra fee.
7-45 p.m.—London and all parts	8-0 p.m.

Box cleared for local letters at 5 a.m., 10 a.m., 3 p.m., and 6-30 p.m.

Parcels Mails despatched at 9-30 a.m., 12 noon, and 6-30 p.m.; delivered 9-30 a.m. and 4 p.m.

Letters for registration should be presented at the counter 15 minutes before the time appointed for closing the box.

SUNDAY ARRANGEMENTS.

On Sundays the Night Mails from all parts, except Ireland, are delivered by Letter Carrier at 7-15 a.m.

The Irish Night Mail is delivered to callers, at the counter, between 9-45 and 10 a.m., or by Letter Carrier the following (Monday) morning.

The Box is closed for the Outward Night Mail (all parts) at 7-35 p.m. No late fee.

ATTENDANCE.

The Head Office is open for the Sale of Stamps, the Registration and Delivery of Letters, and Parcels business from 7 a.m. to 9 p.m. on week days. On Sundays, from 7 a.m. to 10 a.m. only.

There are Branch Offices at Higher Buxton (High Street), Fairfield Road, and Burbage, all of which are Money Order Offices and Post Office Savings Banks. A Telegraph Office is also attached to the Higher Buxton and Burbage Offices respectively. For information as to the despatch of letters, *vide* the Regulation Card which is exhibited in the several windows.

Money Order, Postal Order, Savings Bank and Insurance and Annuity business transacted from 9 a.m. to 6 p.m. Saturdays, till 8 p.m.

The Head Telegraph Office is open from 7 a.m. to 9 p.m. on week days, and from 8 a.m. to 10 a.m. on Sundays, Christmas Day, and Good Friday.

To avoid delay, letters should be addressed, "Buxton, Derbyshire."

HENRY WINT, Head Postmaster for the District.

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